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THE QUESTION OF MORTALITY IN ACUTE APPENDICITIS.*

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There has been an increasing number of articles in the medical literature which indicate dissatisfaction and concern about the mortality rate in cases of appendicitis. The impression derived from reading these papers is that there has been a slow but steady rise in the percentage of mortality over the last twenty or twenty-five years. For instance, Willis[1] in 1926 quotes from *Figures of the Census Bureau* a statement in regard to the mortality rates in certain surgical conditions over several decades. He shows that the death rate associated with hernia has fallen from 13 per 100,000 population in 1901-1905 to 10.7 per 100,000 in 1921. In the period from 1905 to 1921, the mortality rate from surgical diseases of the kidney decreased 11 per cent, while that due to involvement of the pelvic contents fell over 26 per cent. In the same period, that is to say from 1901 to 1922, the mortality rate of appendicitis rose about 31 per cent. He also calls attention to the fact that the number of deaths annually from appendicitis equals all of those from salpingitis, pelvic abscess, surgical diseases of the pancreas, spleen, thyroid, gall-stones and ectopic pregnancy. Before the age of forty-five more persons die annually from appendicitis than from cancer.

Archer and Young[2] state that the death rate as a result of appendix disease is increasing at the present time. They quote the average mortality from various sources in appendicitis as varying from 2.9 per cent to 8 per cent, rising as high as 16 per cent for perforated cases alone. Only nine hospitals out of thirty-four reported in one study had a mortality of 3 per cent or less.

Lower and Jones[3] report an experience based upon 6,187 operations for appendicitis and state that the mortality rate is still too high, ranging from 3 to 6 per cent. They also state that the death rate in England and Wales tends to increase rather than diminish.

Hoffman[4] confirms the figures of Willis and shows a steadily rising death rate since 1900 when there were 9.7 deaths per 100,000 to 14.9 in 1924.

The experience of Duggan[5] is contrary to that of the authors just quoted. He states that in the particular case of the Boston City Hospital the mortality has sunk from 1895-1896, when it was 20.7 per cent, to the figure of 3.1 per cent in 1921-1922. He states that the lowering in mortality is best explained as being due to earlier recognition of the disease and improved methods of treatment.

In the *Statistical Bulletin*[6] published by the Metropolitan Life Insurance Company these figures have been studied for the country as a whole and the conclusion is reached that there has been an increase of 20 per cent in the death rate of white males and 14 per cent for white females since 1911. A consideration of various reasons for this increase accompanies the figures but no conclusion is reached to explain them.

It is naturally disconcerting to a surgeon to have doubts arise as to the outcome of operative treatment in a group of cases usually thought to be among the most satisfactory of those commonly encountered. Because of this feeling, the writer was prompted to review his own personal experience in the last ten years to check up exactly on the mortality rate and to compare it with the figures quoted above. Before the actual statistical study was made, the impression obtained that extremely few cases of appendicitis were lost and, as will be observed from the figures, this turns out to be the case. As a matter of fact, there have been only two deaths in the past ten years, and one of these occurred in an exceptionally difficult and dangerous situation because of the patient's general physical condition. Before dealing with the details of this report, it should be stated that no intention is entertained of drawing personal credit from the ex-

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perience herewith reported. The writer does not differ in any material manner from the customary method of handling appendicitis. His operative procedures are standard and there is no reason to look for personal praise in the very good results obtained. On the other hand, the whole purpose of this paper is to show that under favorable conditions, the mortality in acute appendicitis should be extremely low and to discuss what these conditions are. The actual material involved in this study includes 226 cases, all done personally by the writer. Of this number, seventy-nine are classified as chronic appendicitis, twenty-two as sub-acute appendicitis, and 125 as acute appendicitis. This yields a percentage mortality rate of less than nine-tenths of one per cent for the whole group, and exactly 1.6 per cent for the acute cases alone. Among the cases classified as acute appendicitis, none were included which did not actually show definite and marked signs of acute, intense inflammation. All others were grouped as sub-acute or chronic. Among the 125 acute cases were included a number with gangrene, abscess and spreading peritonitis. In this report no attempt will be made to differentiate these different grades of acute inflammation as they represent nothing more than various stages in the development of the same process. It has been customary in reports such as this to divide the acute cases into various categories, such as with abscess, with gangrene, with peritonitis, etc. This is a perfectly proper distinction to make in pointing out the varied duration and intensity of the disease and these two factors doubtless have been the greatest influence in determining the rate of mortality. The custom of recognizing such groups and comparing them with each other, to establish relative mortality hazards, is thoroughly sound. In this instance, however, as there were only two deaths in the entire series including all of the intenser forms of appendicitis, there seems no reason to divide this group up into sub-headings. The group herewith presented represents the usual wide age distribution that other statistical studies have made familiar. The average age of greatest incidence is in early adult life but among the cases herewith reported there are four at two years of age, and at the other extreme, one at eighty-three years of age. All of these particular patients recovered.

The one important respect in which this series of cases differs from most of those elsewhere reported is that it represents the work of one man in a large city containing a highly trained medical profession and a general public well aware of the danger lying in acute abdominal attacks. Extremely few of these patients lived more than a few miles from the borders of the City. They were all of them private patients in the sense that they were not admitted to the general service but were personally referred to the surgeon, nearly always by their family physicians and in a few rare instances by some close friend. As a consequence of this, the thing which characterizes this selection of cases of acute appendicitis is the short time which elapsed between the onset of the disease and the removal of the appendix. In a number of cases this interval of time was less than twelve hours. In more than half the cases it was less than twenty-four hours, and in very few was the interval greater than forty-eight hours.

This factor of the short interval of time elapsing between the onset of the attack and its operative treatment is universally recognized as the most important single element in securing a high percentage of recovery. It has been said that it is better to have a poor surgeon operate early in cases of intestinal obstruction than to have the best surgeon in the world operate later. A very similar situation exists in acute appendicitis although not absolutely identical. It is true that a certain number of appendicitis cases, if left untreated, will spontaneously recover; whereas, this can scarcely be hoped for in obstruction cases except in the result of some very curious, special circumstances. In spite of the possibility that a certain number of cases of appendicitis will get well of themselves, it remains true that many will not recover if left alone and that the chance for all of them to do best lies in early surgical intervention. Therefore, those surgeons who are so situated that they can secure their patients early in the development of the attack of acute appendicitis should, naturally, be able to present very much better mortality statistics than are obtained in less favorable circumstances. The writer belongs to such a group and it is not surprising that the statistics herewith reported should be better than those of a large mixed service in a general hospital or collected statistics from

the country at large. Surgeons whose practice is scattered over a wide area of territory with long distances to be covered cannot expect to get their cases as early as when the patients come from close at hand. In a similar way, a rural population, where the family physician is often late in being called to the case, will also show a corresponding increase in the number of late operations. The general surgical service of a large hospital, drawing much of its public ward material from the ignorant and less fortunate group of the population, will also how a higher proportion of late cases. Many of the cases in such a group are afraid of operation, many of them are so poor that they put off sending for medical aid in the hope that they will not need it and some of them are so neglectful of their own physical conditions that they will stand a great deal more pain for a longer time without seeking assistance than that part of the population which is better educated and more intelligent.

The importance of delay is very well illustrated in the case of one of the patients who was lost. This patient was a man forty-three years of age whose family physician asked to have me see him within less than forty-eight hours after the onset of the disease. Upon examination he was found to present symptoms which led to a diagnosis of probable appendicitis of not very intense form. Besides this acute condition, he was found to be excessively obese, weighing about 260 pounds, very short of breath with decidedly handicapped heart muscle and, in general, a poor subject for anesthesia. Because of the immense thickness of his abdominal wall, it was felt that local anesthesia would be difficult or impossible to employ. In view of the fact, as stated above, that acute appendicitis not infrequently undergoes spontaneous improvement, it was thought wise, in this particular instance, to adopt a waiting attitude in the hope that he might not require operation. It should be said at this point that with the exception of this one case, all the others in this series were operated on practically as soon as possible after a probable diagnosis of appendicitis was made. That has been the custom of the writer for many years and has given such satisfaction as to become a routine. In this one case, where an exception was made to the rule, misfortune resulted. The patient was watched for about thirty-six hours longer at which time an increasing temperature, pulse rate and leucocyte count made it imperative to interfere in spite of his general condition. He was operated on and a gangrenous appendix was found, the wound was drained and for a few days the patient did fairly well although he developed a sour smelling, fermentative infection in his incision. He died on the eighth day with gradually weakening circulation and without any evidence of obstruction or peritonitis. The cause of death officially given was "fatty myocarditis." In reviewing this one fatality, the reasons for delay in operation still commend themselves as being sound, but, as a matter of practical fact, since operation became necessary eventually and revealed a gangrenous appendix, there is no doubt that practically his chances would have been greater had the custom been followed of prompt operation in spite of his unfavorable general physical condition. The other death occurred as a result of paralytic ileus following a gangrenous appendicitis, operation being done about eighteen hours after onset.

To revert to the data elaborated in the first paragraph of this paper, there have been recent publications showing an increase in mortality from acute appendicitis which may have caused doubt to arise in the minds of the profession or of the laity as to the adequate treatment of this disease at the present time. There may be many explanations for this increasing mortality percentage. One probable element in the increase is the proper listing of deaths as due to acute appendicitis which twenty-five years ago, without autopsy or operation, would have been put down under some other category. The improvement in diagnosis and the increasing frequency of operation have revealed many cases as due to appendicitis which in earlier years would not have been recognized as such. Another possible explanation, which may be advanced to account for the higher mortality rate recently reported is that many more men are doing surgery all over the country than was the case twenty-five years ago and, furthermore, the impression has become current that anybody can operate on appendicitis. These two factors have led, no doubt, to the performance of operation under circumstances not the best for favorable results and by men not adequately trained to handle a condition which, in some of its phases, may tax to the

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utmost the skill of the might highly trained surgeon. There may be other factors leading to the increased mortality rate that has been reported, such as the increasing vogue of Christian Science and other cults with resultant neglect of the development of dangerous conditions. The one purpose of this paper is to show that there is nothing inherent in the nature of the disease or the surgical treatment of it that can be held responsible for an increasing mortality. It is perfectly possible to secure a series of results with extremely low mortality by following the well recognized methods of operative treatment, provided one essential is constantly borne in mind and put into practice. That essential is the early recognition and prompt operation for cases of acute appendicitis. This short series, while insufficient to serve as a basis for general conclusions, is ample to show that in a community where the medical profession generally is alert to the danger of delay in acute abdominal conditions and where the general public also has been educated to expect prompt surgical treatment in such situations, there is no need to fear a rising mortality hazard from the surgical treatment of appendicitis. There will always remain an irreducible minimum of fatalities. Such accidents as pulmonary embolism and coronary occlusion cannot now be guarded against. Occasionally a particularly virulent organism or a particularly handicapped or non-resistant patient will bring to pass an unexpected death. But, with the exception of such rare occurrences, the operative treatment of appendicitis, promptly and properly executed, yields results of the most satisfactory character in nearly every case.

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18 *West Franklin Street.*

THE PRACTICING PHYSICIAN AND ADULT EDCATION.*

By GREER BAUGHMAN, M. D., F. A. C. S., Richmond, Va.

When Dr. Charles G. Maphis invited me to discuss the practicing physician and adult education before the Round Table Conference on Adult Education as a part of the Institute of Public Affairs, I felt a hesitancy in undertaking a task that had so ably been discussed by Mr. Geo. B. Zehmer and Mr. Geo. W. Eutsler in Post-Graduate Medical Education in Virginia, University of Virginia Extension Series. It occurred to me, however, that a discussion of the education of the doctors of Virginia from the earliest times coupled with a report of my own experience with a plan for post-graduate instruction in obstetrics might be helpful.

The task of gathering data has been greatly simplified by Dr. Wyndham B. Blanton who published, in 1931, "Medicine in Virginia in the Seventeenth Century."

Anatomy during the seventeenth century was fairly understood in England in spite of the fact that dissection of the human body was frowned upon by the public and that even in Edinborough, the most important of the medical schools, there was no skeleton until 1697. Physiology was beginning to be understood and obstetrics was in the hands of the midwives. There was no real understanding of disease. While numerous empirical remedies were used they probably did more harm than good.

The first physician in Virginia was Henry Kenton, a ship surgeon, who in 1603 with four others landed ashore while in the "Chesepian Bay in the country of Virginia." They were ambushed and killed by Indians.

In May, 1607, when the colony was finally established at Jamestown, Will Wilkinson, a chirurgeon, was classified with Will Barrett, the bricklayer, and Thomas Cowper, the barber. Grouped with the gentlemen was Thomas Wooton, chirurgeon. In 1608, there were Walter Russell, Doctour in Phisick, Post Ginnat, chirurgeon, and two apothecaries, Thomas Field and John Harford.

It was Dr. Walter Russell who treated Captain John Smith at Stingray Point when he was wounded by a stingray and almost lost his life.

In 1610, Lord Delaware brought with him

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to Virginia Lawrence Bohun, Doctor in Phisick. Both Russell and Bohun were in all probability graduates in medicine. Russell was an educated man because he wrote, according to Captain Smith, the account about the sting-ray and Bohun is said to have been "a long time brought up amongst the most learned surgeons and physitions in the Netherlands."

Jamestown was settled by 105 colonists. By the end of the century more than 10,000 Englishmen had emmigrated to Virginia. Even with the natural increment due to births there were only 75,000 people at the end of the century. Their enormous death rate does not speak very well for the skill of the doctors.

Those that were killed by the Indians and died of starvation could hardly be laid at the doctor's door. Food deficiency diseases such as beriberi and scurvy were prevalent. Malaria was probably not fatal, but typhoid diagnosed as malaria was the disease in particular that killed. Influenza, pneumonia and pleurisy took their toll. Smallpox was as common in Virginia as it was in Europe. Unfortunately, Jenner did not publish his first work "An inquiry into the causes and the effects of Variola Vaccinae" until 1798. Measles, dysentery and yellow fever were among the fatal diseases and unfortunately for the colonists the purgings and sweats and blood letting were the doctor's main method of attack both here and abroad.

When Virginia was settled the physicians and surgeons were with a few exceptions English. They had been educated and trained for their profession in England or at Leyden. The physicians were the second sons, the surgeons and pharmacists were the third sons of country gentlemen. The physicians were educated at Oxford, Cambridge, Edinborough or Leyden. The surgeons and pharmacists were not so well educated.

They studied anatomy, botany, a little chemistry and physics, which were very new at the time; a few learned something of pathology. Such men were considered well educated and called doctors of physic. The majority of the doctors received their instruction and acquired their medical knowledge by appenticeship. There is record of only one native Virginian who was a Doctor of Physick, John Lee, B. A., of Queens College, some where about 1658. Some of the wealthier parents sent their sons to England to study under the eminent doctors there. The great majority of the native Virginia doctors studied their medicine as apprentices to doctors already established. We call it apprenticeship by courtesy; really it was indenture servitude. Among those recorded as indenture servants, were Patric Napier, Richard Townsend, 1621, Francis Hadden, John Williams about 1640, and John Innman, 1628. There is nothing particularly new or strange about indenture, for all of the colonists were indenture servants of the London Company from 1607 to 1619. They paid for their passage from England and for their keep in this manner.

In 1634 a free school was established for the children of Elizabeth City and Kecoughtan parishes; 1652 and 1659 found similar schools set up in Northumberland and Northampton counties and others. The prospective doctors studied at these schools and in many instances taught in them.

The London Company decided to build a university and a hospital in 1611. A site was selected upon the James River about fifty miles above Jamestown because Henricopolis was already a thriving town at that point. The site of this town is what we call Dutch Gap now. The buildings for the hospital and university were completed in 1612. The hospital was for the accommoditation of eighty patients and the beds were on hand before the hospital was completed. The whole was surrounded by a palisade. In 1622, the town, the university, the hospital were wiped off the earth by the Indians. It was not rebuilt. We have no record of the work of the hospital or the college. We do not know whether it was used for teaching purposes or not.

We do know that the first permanent hospital was the University of Pennsylvania Hospital, established in 1750, and the first permanen medical school at the same place in 1766. These were almost one hundred and fifty years after the establishment of the hospital at Henricopolis.

On February 8, 1693, the charter of William and Mary College was signed and the college was opened in 1694 with Dr. John Blair as the first president. At last the doctors had a place in Virginia where they could receive a better education, but unfortunately there was no medical school either at William and Mary, or, for that matter, anywhere else in the colonies where they could study medicine. The

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century ended with Europe the nearest place that a medical education could be obtained except for apprenticeship.

The first nurses were the wives of the physicians. Obstetrics was entirely in the hands of the midwives. Goodwife Thorpe practiced in Surry County about 1685 and charged a hundred pounds of tobacco as a fee. Hannah Webb, of Isle of Wight County, Susan Evans and Elizabeth Tindall, of York County, were among the best known.

There were few physicians or surgeons who were sufficiently prominent to be mentioned during the seventeenth century and they were mentioned more because they made history than because they were good in their practice of medicine. In addition to those already mentioned, there were Lawrence Bohune (-1622), the first physician general to the Colony of Virginia, John Pott (-1652) who succeeded Dr. Bohune and was a first-class politician who caused lots of trouble at Jamestown and was a thorn in the side of Captain John Smith, and John Mitchell, the botanist, who lived in Urbanna, but was born, educated and lived in England until about 1700.

The best comment upon the doctors of the seventeenth century in Virginia is that many of the citizens owned medical books; some libraries had as many as a hundred volumes devoted to medicine. They treated their own ailments rather than trust to the colonial doctors. Noteworthy among layman book doctors were Richard Lee and William Byrd.

The same sort of training for physicians continued through the eighteenth century until 1776 when a medical course was started at the University of Pennsylvania. There was probably a little more general knowledge gleaned from William and Mary or Harvard. In Virginia, John Mitchell, the botanist, still lived at Urbanna and did not die until 1768; Hugh Mercer (1725-1777), born in Scotland and graduating from the Medical School of Marschall College in 1744, was located in Fredericksburg, where he bore the reputation of being a good physician, but is better known as a General in the Revolution; William Cabell (1700-1774), born in England, a graduate of the Royal College of Surgeons, London, practiced in Williamsburg, Henrico County, Goochland County, and Nelson County. He did an extensive surgical practice, maintaining at his home a private hospital. John Leigh, who was a student at William and Mary in 1769 and took his degree in Europe, lived in King William County and took the Harveian prize in 1785 on opium, in which he reported experiments on animals and man.

The establishment of the first insane asylum in the colonies at Williamsburg in 1773, was noteworthy in that it proved the means of giving post-graduate instruction to a whole family of alienists. Beginning with James Galt, then Alexander D. Galt (1777-1841), John Minson Galt (1700-1808), John Minson Galt, 2nd, the Galts were superintendents for nearly a century.

On December 4, 1779, Thomas Jefferson and President Madison induced the Board of Visitors of the College of William and Mary to abolish the grammar school and two divinity schools and to start a school of medicine. Dr. James McClurg (1746-1823) was elected the first Professor of Anatomy and Medicine. His father was Dr. Walter McClurg, of Elizabeth City County. Dr. James McClurg graduated from William and Mary in 1762, took his M. D. degree from the University of Edinborough in 1770, did post-graduate work in Paris and London, and located at Williamsburg in 1773, soon becoming the leading doctor in the State. The course in medicine continued until 1783.

The troublesome times preceding the revolution probably helped in the establishment of medical courses at the University of Pennsylvania in 1765, Columbia, New York in 1767, and William and Mary, because it made those seeking higher education feel that Europe was not safe for them. After the revolution was over this pressure for medical instruction resulted in the establishing of medical courses at Harvard in 1782, Rutgers (Queens) in 1792, University of Maryland in 1807, Yale in 1810, Bowdoin in 1820, George Washington in 1825, Medical School of the Valley of Virginia at Winchester in 1826, Winchester Medical School in 1826, University of South Carolina in 1823, University of Virginia in 1827, University of Georgia in 1828, Tulane in 1834, Medical College of Virginia in 1838, first as the medical department of Hampden-Sidney and in 1854 as the Medical College of Virginia in 1913, consolidating with the University College of Medicine which was founded in 1893, Mettauer's Medical Institute in Prince Edward County, Virginia, in 1837, which was chartered as the medical department of Randolph-

Macon College in 1848, but discontinued in 1860.

For the next century Virginians who were interested in medical education could receive training in medical schools close at hand or in some neighboring city. The system of apprenticeship continued until the establishment of the Medical Practice Act, February 22, 1884, which established a State Board of Medical Examiners and made it almost impossible to obtain a license to practice medicine without graduation from a reputable medical school.

If the doctors wanted post-graduate instruction, they went abroad or to some of the larger cities in America where the clinical and pathological material was more plentiful. Gradually these centers, as a result of the pressure of post-graduate students, developed a post-graduate system of instruction, this occurring sooner in Europe, particularly in Vienna. The medical schools of Virginia made several attempts towards post-graduate instruction but with poor success.

The meetings of the Medical Society of Virginia first organized in 1820, re-organized in 1870, were most important in developing and instructing the doctors of the State.

Among the physicians who lived during these times and contributed to the instruction of others might be mentioned William Baynham (1749-1814), who served for five years under Dr. Walker, of Caroline County, and then went to London to complete his medical education. He was prosector of anatomy at Cambridge and practiced in England for sixteen years. He located in Essex County and became a famous surgeon. He was the first who operated successfully for ectopic pregnancy in 1790 and again in 1799. John Peter Mettauer (1787-1875), A. B. Hampden-Sidney 1806, M. D. University Pennsylvania 1809, returning to Prince Edward County, became a great surgeon, performing 800 operations for cataract, 400 for vesical calculus, was the first to use metal wire and cure vesico-vaginal fistula, and first to operate for cleft palate. He taught many doctors and nurses and finally organized a medical school. Agrippa Nelson Bell (1820-1911) studied under Dr. Geo. C. Blackman. He was an M. D. at Jefferson Medical College 1842, settled at Franktown, Va., afterwards went into the Navy, and was the first to use steam as a disinfectant. William Brown (17 - - 1792) M. D., University of Edinborough, 1770, settled in Alexandria, Va., wrote "Pharmacopoeia for the Use of Army Hospitals."

Among those who influenced medicine in the State and who taught at the University of Virginia might be mentioned James Lawrence Cabell (1813-1889), M. D. University Maryland, post-graduate in Paris; James Edgar Chancellor (1826-1896), M. D. Jefferson Medical College 1848; William Cecil Dabney (1849-1894), M. D. University of Virginia 1868; John Staige Davis (1824-1885), M. A., M. D. University of Virginia 1841, post-graduate in Philadelphia; Robert Empie Rogers (1813-1844), M. D. University Pennsylvania 1836; John Lawrence Smith (1818-1883), M. D. Charleston Medical College, post-graduate in Europe; William B. Towles, M. D. University of Virginia 1867; Robley Dunglison (1798-1869), Surgical Degree Royal College of Surgeons, M. D. Erlangen 1823; John Patten Emmett (1796-1842), College of Physicians and Surgeons 1822; Richard Henry Whitehead (1865-1916), M. D. University of Virginia 1887.

Of those who worked at the Medical College of Virginia for the advancement of medicine in the State might be mentioned Robert Thomas Coleman (1830-1884), M. D. University of Virginia and Jefferson Medical College, post-graduate in Blockley Hospital; John Syng Dorsey Cullen (1832-1893), M. D. University of Virginia, 1853, post-graduate in Philadelphia and in Europe; Frank D. Cunningham (1836-1885), M. D. Medical College of Virginia 1857 and New York 1859, post-graduate in New York, Paris and London. Henry H. Levy (1850-1921), M. D. Medical College of Virginia, 1871, post-graduate at Blockley Hospital, Philadelphia; Charles Bell Gibson (1788-1868), M. D. University Pennsylvania 1836; George Benjamin Johnston (1853-1916), M. D. University City of New York 1876; M. L. James (1829-1907), M. D. Jefferson Medical College 1862; Levin Joynes (1819-1881), M. D. University of Virginia 1839; James B. McCaw (1823-1906), M. D. University of New York 1844; Charles Edward Brown-Sequard (1817-1894), M. D. Paris 1846; Landon Brame Edwards (1845-1910), University City of New York 1867, post-graduate New York City; David Hunter Tucker (1815-1871), M. D. University of Virginia 1836 and University of Pennsylvania, post-graduate in Paris; Hunter Holmes McGuire

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(1835-1900), M. D. Winchester Medical College 1855, post-graduate in Philadelphia; Daniel J. Coleman (1866-1912), M. D. Medical College of Virginia 1884; Jacob Michaux (1851-1918), M. D. Medical College of Virginia 1875.

Hugh Holmes McGuire (1801-1875), M. D. University of Pennsylvania 1822, helped to establish the Medical School of the Valley of Virginia, at Winchester, Va., in 1826, professor of surgery in 1850. He is said to be the first Virginian to operate for cataract, and to have done the first club-foot operation in America. He was the first of a distinguished family of Virginia surgeons.

From this brief survey of the education of the doctor from the establishment of the first permanent settlement at Jamestown, in 1607, and a record of those that left a sufficient impression upon their times to have their names recorded, we must conclude that education is the most important element in their success.

Granting that the native ability of the doctors of the seventeenth was as great as in subsequent times, we note with sorrow that the great majority of them were without honor in their community and we attribute it to a lack of education. In proportion as educational opportunities presented themselves and were grasped, the doctor advanced in society. Those that really made a name for themselves almost without exception did post-graduate work.

Medicine in this day is making such enormous strides that a doctor who does not read, consult with his colleagues, attend medical meetings, and make contact with teaching centers is hopelessly lost.

So much is this true that the cities are becoming overrun with doctors and the country is being depleted. The reason is perfectly obvious,—the better men want to touch elbows with progressive medicine and they believe they can make a better living in the cities.

The medical profession can very easily return to the conditions of the seventeenth century in Virginia if the doctor will continue to practice with the knowledge that he had when he got his diploma. The public will then diagnose and treat their own diseases with the aid of popular up-to-date medical books.

From the standpoint of education there are two groups in the medical profession—a kynetic group that demand more instruction, more clinics, more opportunities for advancement than we can give them, and the potential group that are perfectly contented and even resent an attempt to activate them. These two groups are to be found in the cities and towns as well as the country.

The department of education of the Medical Society of Virginia has done a splendid piece of work for education in fostering regional clinical conferences over the State. No one could be offended if Dr. J. Allison Hodges were singled out for praise because of interest in this work.

The sort of education that the doctor needs after he has left college might be designated as acute and chronic. The chronic is that general medical information both scientific and practical that will bring him up-to-date. The acute is that which is needed at once to save lives.

A certain part of the acute education the Board of Health most ably attends to. The Board of Health attends to education about the communicable diseases in the interest of the public as a whole. Those troubles that belong to the individual and cannot be given to anyone else are particularly problems for the doctor. Just at present, two problems that must be solved by the doctors are the high obstetrical and cancer mortality.

One-third of the women who die as a result of pregnancy or childbirth can be saved if they contact a doctor who in turn examines them properly and treats them the right way. Contact with a doctor who can recognize cancer early enough and will recommend an operation will save most cases. Contact with a trained doctor is the answer in both cases.

A joint committee, made up of equal representation from the University of Virginia, the Medical College of Virginia, and the Medical Society of Virginia, has decided that in the case of the obstetrical and cancer problem an emergency exists and have recommended that the situation be met with a different plan than that set up for general post-graduate instruction, with regional post-graduate conferences, etc.

They have recommended that a doctor be employed and be sent with whatever help he may need to the doctors individually or in groups, in order to instruct the ones that need instruction in prenatal care and in office gynecology. This doctor will have to be a diplomat, a

trained clinician along obstetrical and gynecological lines, and above all he must be *not* a practicing physician. He must devote his whole time to instruction and not be connected with any clinic or hospital.

In this way we will be able to save many lives and to open a new means of livelihood for the doctor.

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The English Scholars Library—Captain John Smith.

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VISUAL FIELDS IN TOXIC BLINDNESS, DUE TO FOCI IN THE MOUTH AND NOSE.*

By CLARENCE PORTER JONES, M. D., F. A. C. S.,
Newport News, Va.

It is quite commonly conceded by physicians that blindness may occur in almost any acute disease—especially that of the nasal sinuses. Even frank optic neuritis with atrophy is not an unusual complication; in fact, it occurs quite frequently after purulent sinus infections. However, ophthalmologists have not, as a rule, given general recognition and study to the visual field changes due to infections in the mouth and nose.

When blindness, either partial or complete, or contraction of the visual fields occurs, with no retinal pathology demonstrable to eye of the observer, one is apt to say "toxic blindness" for want of a better name.

Blindness occurring in apparently healthy persons may be toxic. There is a post-bulbar edema of the optic nerve which may ensue for a number of days before a well defined neuritis becomes fixed. Unless the cause is sought and removed, the natural sequence is total optic nerve atrophy.

A valuable aid in the practice of ophthalmology, visual field measurement is often neglected. For the past ten years that we have measured fields almost as a routine, we have obtained information in the premises which is valuable.

Visual field significance in toxic blindness has been little emphasized in the literature; we feel that it is an important study.

We wish to report fifteen cases. The series tends to emphasize field mapping in all cases of visual disturbance, however slight. Each case, with the aid of several practitioners or internists, usually both, was given a complete physical examination with complete laboratory and X-ray studies. The especial "eye single" was out for the detection of syphilis, tuberculosis, nephritis, diabetes and heart lesions.

Each patient came to consult us for disturbance of vision; most of them had no knowledge or suspicion that there was any lesion except in the eye. Nine of the patients had to be led to the office. Each case was of recent origin. Splendid cooperation was had on the part of these patients. A prompt frank statement was made as to the seriousness of the matter, and it was impressed on the mind of each that unless we had such cooperation we would have little to hope for short of stone blindness. If we could find the focus and remove it, there was likelihood of the vision improving.

Ophthalmoscopic examination revealed no pathology, except in one case. The Wassermann reaction was negative in each case. There was a history of syphilis in one case. There was latent tuberculosis in one case, also some albumin and casts in one case. The physical findings were negative with the above exceptions, save the foci in the mouth and nose. Steps to remove the foci were taken immediately upon discovery of the same. Each case, with one exception, was given the same medical follow-up treatment, i. e., calomel, one-quarter grain, and sugar of milk, one grain, administered before meals, also potassium bicarbonate and sodium bicarbonate, each 10 grains, in a glass of cold water one hour after meals for eight days. This was followed by the administration of syrup hydriodic acid, half an ounce night and morning for a period of six weeks or longer.

When sinus surgery was done, daily packing of the nose was done with ten per cent hot silvol soaked cotton pledgets remaining one hour. This was repeated at one to three-

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day intervals for three or four weeks. Dietary and hygienic measures were enjoined.

In order to conserve space, we will make a brief mention of the history of each case.

Case 1. Thomas B., colored laborer, age 51, was first seen July 12, 1924, complaining of bumping into things so often as to interfere with his work. Physical finding were negative except for a slight albuminuria and a few casts, while both antrums were infected and four teeth were abscessed. Each antrum upon operation was found to contain a limited quantity of muco-purulent material which cultured the staphylococcus albus and micrococcus catarrhalis organisms. The teeth were also extracted. Fields measured on September 27, 1924, showed improvement. He died recently from angina pectoris. His gain in vision remained until his death.

Case 2. Colie S., age 19, a truck farmer, was first seen complaining of being afraid to drive his automobile, using his words, "the whole one side of me has been blind the last three days." His right eye had been blind and divergent since he was eight years old. He did not know why it became so. Physical findings were negative except infected tonsils and an impacted upper molar tooth (second) on each side. These were extracted. The ophthalmoscopic examination revealed retinal atrophy of right eye. The left eye showed retinal detachment on the nasal half. He was put to bed and given pilocarpine, sodium salicylate, and soft diet for two weeks. His tonsils were removed a month later.

His field measurement on March 19, 1924, showed partial reattachment. He has been under observation since and is holding his ground. He drives a truck to market daily.

Case 3. E. L. K., a mechanic, aged 64, was first seen September 28, 1924, complaining of blindness in right eye of four days duration. His physical condition was excellent, and his history good except a history of syphilis. He had been treated by an able genito-urinary physician and had had three negative Wassermanns, one year apart, since treatment had ceased, the last about two weeks before his coming to us. No lesion could be found on examination except two abscessed teeth. These being extracted, his vision began to return and he could tell a man from a horse in twenty-four hours. His blindness had disappeared by October 23rd. His gain lasted until his death last December.

Case 4. Maurice H., a salesman, age 28, came on March 21, 1925. "I notice things bump into me on my right side," is the way he expressed it. Physical examination revealed nothing except eight abscessed teeth. All were promptly extracted. His visual fields were well on to normal by May 3rd. His gain is permanent.

Case 5. Mrs. L. B. W., a housewife, age 34, first seen January 7, 1926. Her lesion was four abscessed teeth. Extraction of these caused rapid return of field to normal. She consulted us because she had had several automobile accidents from no other cause than she did not see objects approaching to her side.

Case 6. B. W. L., a farmer, age 50, first seen August 23, 1926, on account of blindness in both eyes since August 10th. His visual fields measured revealed double central scotomata, with some peripheral contraction. His focus was discovered to be in right antrum and both sphenoids, each of which were cleaned out, cultured separately, and were found to show staphylococcus albus in pure culture. A cloudy fluid was found in each sinus. His visual fields reached the normal by November 17th. His gain is permanent.

Case 7. Mrs. R. H. B., a farmer's wife, age 62, first seen February 5, 1925, complaining she had been unable to read or distinguish things directly in front of her for two days. Her visual field measurement revealed central scotomata with some peripheral encroachment. Her foci, according to physical findings, were in each antrum, culture showing staphylococcus albus. Both were operated. Her vision improvement was prompt, reaching normal by March 7th. Visual gain is permanent.

Case 8. H. S. R., a lawyer, age 52, first seen August 20, 1925. He had been unable to read for three days. His visual field measurement revealed central scotomata with peripheral encroachment. He had infection of each antrum. Culture was staphylococcus with some pneumococci. He was operated on and his improvement was rapid, as evidenced by the measurement made September 26, 1925. His general physical condition and history were good except he was an arrested tubercular subject. His vision and visual field kept good until his death one year ago from a diaphragmatic abscess—probably tubercular.

Case 9. Miss Annie F., a cashier, age 37, was first seen April 11, 1925. She had noticed that she was unable to read the morning paper, or see the articles of food at breakfast. She had a central scotoma with some peripheral encroachment in each eye. Both antrums were infected, and were operated, each culturing staphylococcus albus. On May 2nd her fields were normal. Her gain is permanent.

Case 10. Mrs. R. N. C., a housewife, age 49, was first seen January 5, 1926. She had been unable to read for three days. She had a central scotoma with peripheral encroachment in each eye. Her focus was the right antrum, which was operated, culture showing staphylococcus aureus, some catarrhalis, and a few pneumococci. Her fields became normal April 21st, the gain being permanent.

Case 11. J. J. H., a farmer, age 53, first seen September 2, 1925. He had complained of blindness in the left eye for the preceding two days. He had an eccentric scotoma in his right eye and a central scotoma in his left eye. His antrums were infected. Operation revealed stringy mucus which cultured staphylococcus albus. Visual fields were practically normal September 19, 1925. His gain is permanent.

Case 12. Arthur D., a colored laborer, age 38, first seen November 25, 1926. He had walked against a swinging beam which caused him to be knocked down. He had bumped into things very often for the past four days. His visual fields were contracted. His right frontal sinus, right posterior ethmoid, and right sphenoid were infected. Operation revealed yellow fibrinous exudate, which cultured pure staphylococcus aureus. His fields were normal January 3, 1927. His gain is permanent.

Case 13. G. P. S., a merchant, age 29 years, was first seen February 24, 1928. Awoke to find himself unable to read the paper. He had central scotoma in each eye with some marginal encroachment. His antrums were infected. Operation revealed muco-pus which cultured staphylococcus albus. His tonsils were enucleated, culture from which showed the streptococcus haemolyticus predominating. His fields became normal by March 11th, except an eccentric scotoma in the left field, which is permanent.

Case 14. J. W. R., a police chief, age 62, first seen October 31, 1929. He had, for the past four days, been unable to read the newspaper or drive his car. He had a large central scotoma, with marginal encroachment in right eye; there was a smaller scotoma in left eye. His antrums were infected. Operation revealed white muco-pus which cultured staphylococcus albus. His fields were normal December 2, 1929. His gain is permanent.

Case 15. T. T. E., a machinist, age 49 years, was first seen June 12, 1930 . An exception to the rule, he came seeking relief from pain which he had suffered for ten days. He had right frontal sinusitis, also infected tonsils. He had a contracted right field. The left eye was normal. His sinuses on operation, also his tonsils on enucleation, yielded frank pus, which cultured mixed organisms, the micrococcus catarrhalis predominating. His field was normal July 22, 1930. His gain is so far permanent.

Conclusions

1. Routine visual field mapping in cases of sudden impairment of vision is an important procedure.
2. When there is no pathology demonstrable by ophthalmoscopic examination, the blindness is toxic.
3. A thorough search should be made at once for the focus or foci, and remove the same.
4. A carefully prepared medical and dietetic procedure should be followed in order that the best results may be obtained.

3117 *West Avenue.*

Editor's Note:—Fifty-six visual field charts were shown with this paper.

THE OBLIGATIONS OF HOSPITALS TO INTERNS AND, RECIPROCALLY, THE OBLIGATIONS OF INTERNS TO HOSPITALS.

By GEORGE TULLY VAUGHAN, M. D., LL. D., F. A. C. S., Washington, D. C.

Let us consider first the obligations of hospitals to interns. The hospital management, the sisters or housekeepers, should see that the intern is provided with a comfortable room, bed, and proper food. The medical staff should treat the intern with consideration, not imposing upon him too much work, but instructing him as opportunity offers and giving him the chance to learn by assisting in operations and the management and treatment of patients. At the same time the intern should be held to strict account for the proper performance of the duties to which he has been assigned.

In turn the intern should obey the rules of the hospital and staff, especially the house-

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keeping arrangements as to the time for rising in the morning, the hours for meals and the care of his quarters. He should be polite but not too familiar with the female nurses and at all times regulate his conduct so as to avoid all suspicion. The orders of the attending physician should be strictly carried out and no change made except in emergency and for good reason. When in doubt he should consult the man in attendance on the patient.

The intern should be loyal to his chief. If he has views contrary to those held by his chief let him so inform him but he should not put them into operation until he has received approval. An intern may be too enthusiastic, full of ideas and energy, eager to do things—even officious—or he may be just the reverse with no interest in his work, no ideas, just muddling along enough to keep out of trouble—perhaps too lazy to accomplish anything worth while. Neither of these men is ideal. The ideal should have enthusiasm, plenty of ideas, energy and desire to do things but he should also have the good sense and judgment to know just about how far it would be proper for him to go.

The intern should examine private as well as house cases and write their histories. It enlarges his field of usefulness, enables him to come into contact with the patient's family or friends and so to cultivate tact and diplomacy and learn how best to deal with the public. Conferences should be held frequently, at least once a month and preferably weekly, at which time the intern should read the history of one or more cases for discussion by the teachers and the interns. Stress should be laid on the more common or more frequent cases which the young practitioner is more likely to treat rather than the rare and unusual cases. A rotating service is best for the intern—so much time in the laboratory, in medicine, in surgery, and in obstetrics and gynecology. As to how much authority should be permitted the intern is largely a matter of judgment, but he should not do major surgical operations. After he has served his internship and has become a resident house surgeon or a fellow in surgery and has assisted experienced surgeons a reasonable time, then he may be trusted and even then for a while he should have the supervision of a competent surgeon. The question may arise as to what constitutes a major operation. Any operation that opens the abdominal cavity is a major operation. Some of the laity and even some physicians have called the operation for appendicitis a minor operation. It is impossible to foresee how extensive an operation for appendicitis may prove to be necessary. It may require excision of part of the intestine or present other complications with which the surgeon may be required to deal.

I have known more than one case in which the operator tore away the mesentery and blood vessels of the ileum and caecum to such an extent as to produce gangrene or require resection of that portion of the bowel deprived of its blood supply. I have known of a case in which the operator was endeavoring to remove an ovarian cyst and he had stripped the parietal peritoneum from the muscles on each side of his incision around almost to the vertebral column without opening the peritoneal cavity. These are some of the results of insufficient training and experience. Surely in these days of multi-science our young surgeons should not be required to emulate the celebrated ophthalmologist who is said to have declared that he had spoiled a hatfull of eyes before he succeeded in performing skillful operations. Now what can be done to prevent such tragedies? The layman is influenced by the reputation of the surgeon or guided by the advice of his family physician; and the latter, sad to say, is sometimes induced to make a choice of the surgeon who is most likely to divide his fee with him—having less regard for the welfare of the patient than his desire to profit by the commercial transaction. Therefore, the teacher must impress upon the young physician the true ethical spirit, not only to his brother physician but especially to his patient and by all means in his power by example and precept to aid him to qualify himself for these awful responsibilities. One method is to lengthen the time of study in medical school and hospital. According to the Council on Medical Education and Hospitals of the American Medical Association, eleven states require the completion of a five years' course in medicine before granting the diploma, and sixteen states, including Alaska and the District of Columbia, require the completion of a year's service as intern before being permitted to apply for a license to practice. The Latin proverb "*Poeta nascitur, non fit.*" (The poet is born, not made) may be true about poets, but it is not true about surgeons. It

is true, however, some men are born with a natural tendency or ability, which, with training and experience, makes them good surgeons or physicians—but the training and experience are necessary.

The intern may have in view his specialty while serving as intern but this should not prevent his giving faithful and conscientious attention to each of the rotating divisions in which he serves, for it gives him the foundation, the basis of the pyramid he is building, to be capped by his specialty. Next, he should enter some hospital or clinic in which his specialty holds a predominant place, where he can assist in operations and gradually perform them himself. After all, to obey the true spirit of medical ethics is to practice the Golden Rule—the hardest thing in the world to do.

When in a cynical mood, I have sometimes thought that all altruistic and philanthropic acts may be traced to self-love. The millionaire endows hospitals and libraries that he may be praised by the public, and the physician, the Christian, and the man who gives his life for another, probably expects some return or reward in this life or at any rate in the life to come—"laying up treasures in Heaven." If all men, doctors included, and especially lawyers, would follow the Golden Rule by precept and example, there would be no need for police or military forces; human society would be one vast brotherhood and a thousand years of peace, the millennium, would indeed have arrived.

1718 *Eye Street, Northwest.*

DIABETIC COMA AND THE GENERAL PRACTITIONER.*

By G. HUNTER WOLFE, M. D., Abingdon, Va.

Prior to April 15, 1929, the statistics of the Metropolitan Life Insurance Company showed 1,044 deaths resulting from diabetes mellitus; of this number 433 (41 per cent) were due to coma. Although the general treatment of diabetes has unquestionably improved in every way in the past seven or eight years, still coma with or without infection remains as a common cause of death in this disease. Facts prove that diabetic coma is a needless complication of diabetes and that it can be abolished. What then can we, as general practitioners, do toward lowering this death rate? As the family doctor we are under definite obligation to our diabetic patients. Because of the nature of diabetic coma, we are the first, in the majority of instances, to be called when an emergency arises. We have a great opportunity to diagnose diabetic coma in its early stages and thus prevent its development. If it does arise, it is usually due to neglect or ignorance on the part of the patient, or the physician, of the simplest rules of medical treatment.

*Read before the Southwestern Virginia Medical Society, in Wytheville, March 19, 1931.

Causes Contributing to Diabetic Coma

(1) Joslin[1] makes the following statement: "Coma comes from over-eating either of food or one's own body. Overeating of food is usually the result of breaking the diet, but not always is this true today. The modern diabetic who takes insulin is always overeating, so far as his own capacity is concerned, and as soon as insulin is omitted he is liable to coma. Therefore, no insulin diabetic should omit insulin unless sugar-free and insulin should be resumed when sugar returns. Even if the insulin diabetic takes no food, he should not omit insulin unless sugar-free and should be ready to resume it if the glycosuria recurs, as demonstrated by four, six, or eight hour tests of the urine. The diabetic with fever, the diabetic with hyperthyroidism, is overeating because his metabolism is raised. This is one of the explanations of the high mortality from coma when influenza is prevalent. But coma should not be so prevalent, because with insulin at frequent intervals it could have been prevented. The overeating may not be extreme. All of us recognize that acidosis results in children if they go long without food and drink and formerly often occurred as a result of operation. Acidosis even in normal children was a dread cause of death. Today the acidosis in normal children is anticipated or, if it develops, is dispelled by giving carbohydrate foods in one form or another. So too, with the diabetic; his acidosis may occur because he has no carbohydrate to burn and lives to excess upon protein and fat wholly apart from his diminished power to oxidize carbohydrates. It is still a sad commentary upon the inauguration of the medical treatment of diabetes that occasionally the carbohydrate in the diet is sharply restricted and the patient is given unlimited freedom in protein and fat."

(2) Acute infectious diseases complicating diabetes frequently result in coma; in fact any diabetic with an infection is a candidate for

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coma. In any disease that causes a rise of temperature, the insulin dose should be increased because in the presence of fever the effect of insulin is considerably reduced.

(3) One should always be on the alert for coma in diabetics who develop gastro-intestinal troubles accompanied with loss of appetite, in elderly patients with damaged kidneys, cases of pregnancy, operative cases, physical pain and overstrain, and depressive psychic conditions.

(4) Neglect or ignorance on the part of the patient or physician. I believe that this can be considered the most frequent cause of diabetic coma. The only way this cause can be abolished is through the efforts of the general practitioner. If the death rate of diabetic coma is to be reduced, it is incumbent upon him to carefully instill into the mind of his diabetic patient the importance of always carrying out his instructions to the letter; to impress him with the common contributing causes, dangers and early symptoms of coma, and the importance of frequent, stated re-examinations of urine. During office visits the patient should be reminded of previous instructions and encouraged to "carry on."

As to the part that the physician plays in the incidence of coma, I believe neglect is the most outstanding. This probably should not be called neglect, because during the winter months especially we have more calls to make than we can during a day; the time allotted to a patient is short; we do not have time to think over the possibilities and, therefore, overlook a beginning coma instead of neglecting it. As examples of the above statement I wish to cite the following cases:

During the past two months I have had the opportunity of seeing two patients in diabetic coma after they had been admitted to a hospital. Both were known by their respective family physicians to be diabetic. One began complaining of pain in the upper left abdomen, shortly became nauseated and vomited. Her physician was called, some medicine was prescribed, but she gradually became more stuporous and finally comatose. Her physician was called again but it was twelve hours after coma developed before treatment was started. Blood sugar was 606 mg. per 100 c.c. of blood; gross sugar, acetone and diacetic acid in urine; very noticeable fruity odor of breath; air-hunger type of breathing. Patient died six hours after treatment was started. Unfortunately, urine analysis was not done until after patient was admitted to hospital.

The second patient began complaining of pain in his arms, his physician was called, he was given some medicine for neuritis, the pain continued, his appetite failed, thirst and frequent urination gradually increased. Four days later he became nauseated and began vomiting; this increased in severity until two days later he became drowsy and all his symptoms gradually increased. Two days later he was brought to hospital in a pre-comatose condition. A hypodermic of morphine was given, before starting to hospital, to control vomiting, when 30 units of insulin would have been the proper medicine. Urinalysis was never done, though his physician made four or five visits. The pain in his arms had disappeared completely when he regained consciousness. What was the cause of these two patients going into coma? The patient's ignorance or neglect, or an oversight on the part of the family doctor? If the physician in charge of each case had spent three minutes in doing the simple test for sugar in the urine and acted accordingly, what would it have meant to the patient? Life for one, and saving a large hospital bill for the other.

Ordinarily we can classify these patients as pre-comatose or actually comatose. This classification is important in the early treatment of coma as the first dose of insulin is determined by the extent of coma. In a true case of coma the initial dose of insulin should be from 30 to 50 units, while in a pre-comatose state 20 to 30 units may be sufficient. Another reason for classifying the extent of coma is that the power of insulin to reduce blood sugar diminishes as the extent of coma increases. If we are able to get a blood sugar determination, the above is not so important. If this cannot be had, by using 1 c.c. of Benedict's solution and two drops of urine for each test, one can very well watch the clinical improvement of the patient and also determine in the majority of cases if the blood sugar is decreasing by the reaction obtained in the urine.

A patient I was asked to see recently proves that there are exceptions to all rules. Her condition was as follows: Vomiting of three days' duration, stupor fifteen hours, marked air-hunger, skin dry, flushed face, parched tongue,

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subnormal temperature, gross cardiac arrhythmia; practically a true coma at 2:00 P. M. Urine (catheterized specimen) Sp. g. 1.015, acid, albumin 2 plus, sugar 4 plus, acetone 4 plus, diacetic acid 4 plus. Blood sugar at 2:30 after 20 units of insulin 298 mg. per 100 c.c. of blood. At 8:15, 80 units of insulin had been given; urine Sp. g. 1.015, sugar 1 plus, acetone 2 plus, diacetic 1 plus; blood sugar 393 mg., deep coma, temperature 102.6. At this time 40 units of insulin was given intravenously because the clinical picture showed that she was not improving. At 2:00 A. M. 140 units of insulin had been given. Urine negative, blood sugar 110 and patient fairly rational; 10:30 A. M. not so rational, blood sugar 160 mg., urine sugar 2 plus (yellow reaction), acetone 1 plus, diacetic acid neg. Sp. g. 1.015. I wish to call your attention to the fact that here the urine picture was not a true index of the blood sugar level or clinical condition of the patient; also there is a fixed specific gravity and a low specific gravity. Ordinarily in diabetes the specific gravity of the urine is high. One author states that he has never seen this condition except when a patient had a kidney complication.

Regarding the differential diagnosis, only two phases will be discussed:

(1) The differential diagnosis between diabetic coma, or acidosis, and an acute abdominal emergency. This is by no means simple, especially in a patient bordering on diabetic coma, with abdominal pain, nausea and vomiting. In both conditions there may be, and usually is, an elevated white count, certain amount of shock, fever or subnormal temperature. If we remember that a diabetic bordering on coma may have pain in any part, elevated or sub-normal temperature, a flushed face, air-hunger, nausea and vomiting, soft eye balls and stupor, we should, on general principles, assume that this patient with sugar in the urine is a potential victim of coma rather than appendicitis, pleurisy, neuritis or rheumatism. Insulin, not morphine, will not only relieve the pain, but save the patient's life. A competent surgical consultant will give the necessary moral support if the pain be abdominal.

(2) Diagnosis of insulin shock from diabetic coma. Joslin[2] states that "insulin like any other drug has its dangers; the most important is an over-dose." Deaths have occurred due to over-dose. He thinks that these occur chiefly because of confusion in the diagnosis of insulin shock from diabetic coma and gives the following as a differential diagnosis:

"Coma (acid poisoning) comes on slowly; insulin shock rapidly. Coma is due to too much food (diet or fever); insulin shock to too little. The coma patient has received too little insulin; the other too much.

"In coma an infection is common, in shock is rare.

"In coma thirst, hunger, nausea, vomiting, pain in abdomen, and fever are usual, but are rare in shock.

"In coma the skin is dry, in shock moist.

"In coma the vision is dim, in shock may be double.

"In coma the patient appears extremely ill, in shock weak and faint.

"In coma the respiration is exaggerated, in shock normal.

"In the onset of coma the patient is restless while approaching unconsciousness, while in shock he is excited.

"In coma the urine shows sugar and diacetic acid, in shock the urine may show sugar, but a second specimen, representing recently secreted urine, is sugar free.

"In coma the response to treatment is slow, in shock it is rapid with carbohydrates by the mouth, rectum or intravenously."

Since the early treatment of diabetic coma is so important in the final outcome, the more important and generally accepted methods of treatment should have a widespread distribution.

The chief purpose of treatment according to Allen[3] is the prevention of the production of acetonemia or its disappearance if it already exists. After this is accomplished, the main object, is the maintenance of good nutrition, so that the patient may feel well and strong. Also, the treatment should protect him from the occurrence of complications and must be planned to prevent progress of the disease and encourage recovery if possible. "Treatment may be considered successful if the patient feels well, the desired weight is held, and the urine is kept sugar-free. To achieve these objects, dietary measures are always necessary. Treatment by insulin does not take the place of dieting but supplements it. Sometimes insulin is used with little, if any, care of the diet. Everyone who has had experience with

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diabetes agrees that such practice is always unwise and often dangerous. Without thorough treatment of the disease to keep the urine sugar-free, patients rarely have full strength and vitality, although there are some who may have fairly good health."

In discussing the treatment I will endeavor to make it applicable to home treatment. Everyone agrees all severely ill diabetics should be sent to a hospital if possible. If the diagnosis of pre-coma or coma is suspected, this can be ascertained fairly well if we carry a catheter, test tube, and a small amount of Benedict's solution. A red reaction indicates a 4 plus sugar, yellow reaction a 2 plus, and a green reaction 1 plus. If the worst happens and coma develops, what should be done? It is very important that treatment be started as soon as possible, a few hours delay may defeat the results that we are striving to obtain, saving the life of our patient. Here again I wish to remind the practitioner that life or death in the majority of cases of patients going into diabetic coma depends on the physician's alertness in recognizing the condition and beginning treatment at once. The patient should be given 30 units to 50 units of insulin hypodermically. If the patient is being sent to a hospital, the insulin should be given before placing him in the ambulance. If kept at home, or after entering the hospital, the following plan should be carried out:

Put the patient to bed, keep him warm by using blankets and applications of external heat, immediately give an enema of warm salt solution. If there is much nausea and vomiting, and especially pain in the upper abdomen, it is good practice to empty the stomach by a gentle gastric lavage. This may also prevent the formation of gas and an acute dilatation. In giving this lavage we should remember that the heart of the patient is very weak.

If heart action is irregular and very weak, or the circulation poor, digitalis should be given, or caffeine sodium benzoate administered in 7½ gr. doses every two or three hours as necessary, until three or four doses have been given. The two drugs can be alternated.

Nourishment is necessary for the coma patient. So often is the digestion disturbed that the greatest care must be taken in its administration. Hot liquids are given by mouth at a rate not exceeding a glassful an hour. Coffee, tea, orange juice, water and oatmeal gruel are suitable. Carbohydrates are indicated, easy to give, and better tolerated by the stomach. Fifty grams the first twenty-four hours are usually sufficient. At times it may be necessary to give this as glucose by proctoclysis or intravenously. If given intravenously, either a 25 or a 50 per cent solution should be used every three or four hours as necessary, in amounts not exceeding 150 c.c., as the danger of overloading the circulation is always to be thought of. From 3,000 to 4,000 c.c. of fluid in twenty-four hours is usually needed.

There has been considerable controversy among authorities on diabetes concerning the administration of alkalies in this condition. Joslin opposes it, particularly large doses. On the other hand, Allen urges their use. If the patient does not begin to show improvement in the Kussmaul type of respiration, and urine shows a decrease in acetone and diacetic acid by the end of eight or ten hours of treatment, I believe it advisable to begin alkalies. The frequency of dose should be guarded by the extent of air-hunger and by the urine, which should be kept neutral or slightly alkaline.

Insulin: The insulin requirement is variable and differs in practically every case. As a rule, it is given every one to two hours. The initial dose is from 30 to 50 units and, of course, is given immediately after diagnosis. Subsequent doses depend upon the results of re-examination of the blood and urine. By inserting a catheter and holding it in place with adhesive, a specimen of urine should be examined every two hours, before the next dose of insulin is given. The size of the dose is governed by these tests and the clinical condition of the patient. With a rapidly falling sugar in the urine and a definite clinical improvement, insulin should be reduced, or delayed, and thus avoid a hypoglycemia.

The first two or four days following recovery from coma is a critical period. Urinalysis should be done every four hours and a very good rule to follow is to give 15 units of insulin if the Benedict's test gives a red reaction, 10 units if a yellow reaction, 5 units if a green reaction, and no insulin if sugar-free. The original diet is resumed gradually; usually the second day a diet consisting of liquids and soft foods, C. 50 grams, P. 25, and F. 25 is safe. This is increased until the desired

number of calories is reached as determined by the basal caloric need. One should always remember that 45 per cent of proteins and 90 per cent of fats are converted into fatty acids; 55 per cent of the proteins, 10 per cent of the fats and all of the carbohydrates provide glucose. A diet should not be given where the fatty acids are twice as much as glucose.

If the patient has been treated at home, as soon as possible he should be taken to a hospital, where the correct dose of insulin suitable to that particular patient can be determined by doing blood sugars. Blood sugar determination should be repeated every month for some time, and urine tested for sugar every week.

The physician should instruct his patient that any time he develops infection, or feels abnormal in any way, he should carry out the rules Joslin teaches his patients, which are "(1) go to bed, (2) keep warm, (3) get an attendant, (4) drink a glass of liquids each hour, (5) for nourishment depend on water, orange juice and oatmeal gruel, (6) send for your physician." The responsibility then rests solely upon the physician.

In conclusion, the high incidence of preventable deaths from diabetic coma presents a challenge to the general practitioner His clinical alertness and ability to educate his diabetic patients in the simple fundamental matters of dietary importance and cooperation will determine whether the estimated one million diabetics in the country will die prematurely or live their expected span of years.

REFERENCES

1. Joslin, Elliott P.: *Indiana State Medical Journal*, 23:57-63 (February), 1930.
2. Joslin, Elliott P.: *New York State Journal of Medicine*, 30:1461-1464 (December), 1930.
3. Allen, Frank N.: *Southwestern Medicine*, 14:512-517 (November), 1930.

THE PROGNOSIS IN ECLAMPSIA.*

By M. PIERCE RUCKER, M. D., Richmond, Va.

I crave your consideration of 204 cases of eclampsia that have come under my observation in the past twenty-seven years, from the standpoint, first, of immediate risk to the mother, and second, the effect upon her subsequent health and childbearing. These cases are all true eclampsia, i. e., the convulsive type of toxemia of pregnancy. Unless the patient had at least one convulsion that was seen by a competent observer, the diagnosis of eclampsia was not made. I dwell upon this point because my last publication upon eclampsia,[1] "The Treatment of Eclampsia with Magnesium Sulphate." was criticised by a Philadelphia author[2] as follows: "In thirty-six of these treated with $MgSO_4$ he had no deaths, while in ten treated otherwise he had two deaths. I have read through Rucker's cases and there are no records of actual convulsions, and I wonder whether some of his cases may have been pre-eclamptic or uremic, thus explaining his results." This author evidently did not refer to the original article for a synopsis was given of each case with the kind of convulsions, whether ante-, intra- or postpartum, together with the urinary findings, blood pressure, etc.

In this study I have coded the cases for convenience of presentation. The cases are derived from three sources: (1) private cases, (2) cases on the student service of the Medical College of Virginia when I was in active charge of the out-patient department, and (3) cases that occurred when I was on service at the St. Philip Hospital. They are arranged chronologically not only to avoid duplication, but also to show more graphically the varying method of treatment with the years. Eighty cases taken at random from about the middle of the series were graded according to Eden's classification[3] and twenty were found to be of the severe type.

The cases fall roughly into three groups. With the first group, the main idea in the treatment was to deliver the patient as rapidly as possible—accouchement forcé was the sheet anchor in the treatment although towards the end of this period use was made of Cesarean section. In the second group the main reliance was put upon morphine, colonic irrigations, venesection, gastric lavage, and purgation. This was a more conservative period, but still the patient was pestered almost continuously in one way or another. In the third group, which begins with the advent of the intravenous use of magnesium sulphate, I had three concerns: (1) to stop the convulsions, (2) to promote kidney activity, and (3) to prevent heart failure. When the patient is having convulsions, not only does she fail to get the necessary rest, but her attendants are stimulated to unwarranted therapeutic activity. Magnesium sulphate has in my experience quickly controlled the convulsions in the great

*Read before the Richmond Academy of Medicine, January 13, 1931.

XUM

majority of cases. Sodium amytal intravenously and avertin by rectum are also said to be highly efficacious but I have had no experience with either in eclampsia. Water, either through a nasal tube if the patient be unconscious, or by mouth if she can swallow, accomplishes the second indication. Large doses of digitalis meet the third requirement.

A word of explanation of the code. Each horizontal line represents a patient. The first vertical line gives the race, "1" denoting white and "2" colored. The unmarried patients are indicated by "x." The age of the patient is given in the next column. If the patient had had eclampsia previously, it is indicated by "y" in this column. The number of previous children and abortions are given in the next two columns, and the condition of the heart, lungs, and the blood Wassermann in the next three columns. In the column headed blood pressure, "2" denoted a systolic pressure between 100 and 149, "3" a systolic pressure of from 150 to 199, and "4" a systolic pressure above 200. In the column for the urine "1" indicates normal, "2" a trace of albumin, "3" a quantity of albumin, "4" sugar, and "5" casts. The character of the pelvis is given in the next column. "2" means a justo-minor

ECLAMPSIA HISTORIES, CODED

GROUP I

Color and Condition	Age	Children	Abortions	Heart	Lungs	Wass.	Blood Pressure	Urine	Pelvis	Attendance	Total Duration	Duration 2nd Stage	Presentation	Operation	Anesthetie	Perineum	Days in Bed	Placenta	Complications	Cond. of Mother	Cond. of Child	Length of Child
1x	18	0	0	....	....	....	....	....	....	3	....	....	....	10	0	0	7	....	1	3	4	x
2x	18	0	0	....	....	....	....	....	....	3	11	15	2	30y	3	1	1	0x	1	4	6y	28x
1	....	0	0	....	....	....	....	....	....	3	1	15	....	30y	3	1	....	....	1x	3	3x	....
1	36	2	1	....	....	....	....	....	....	3	7	....	2	10	3	....	9	....	11	3	6	x
1	34	3	0	....	....	....	....	....	....	3	....	....	2	1y	3	....	53	....	1x	3	3x	....
2	37	4	....	....	....	....	....	....	....	3	1	....	2x	1y 1	3	....	....	7	1	4	3 6	....
2	24	0	0	....	....	....	....	....	....	3	....	....	2	20	3	0	....	....	1	3	3y	....
2	24	....	....	....	....	....	....	....	....	3	....	....	1	20	3	1	....	....	1	3	6y	....
1	19	0	0	....	....	....	....	....	....	3	....	....	....	10	0	....	....	0	1	3	....	....
2	30	....	....	....	....	....	....	....	....	3	17	....	4	30	3	0	9	0	1	3	3x	....
1	23	....	....	....	....	....	....	....	....	3	8	....	2	1y	3	....	9	0	1x	3	6x	....
1	33	0	0	....	....	....	....	....	....	3	33	30	2	30	3	0	....	0	1	3	3	....
1	26	0	0	....	....	....	....	3	....	3	....	20	2	30y	3	2	17	0	1x	3	6	x
1	19	0	0	....	....	....	....	....	....	6	1	30	....	30y	3	0	....	....	1	3	3x	....
2	20	0	0	....	....	....	....	....	....	1	....	....	....	....	0x	....	1	....	1	4	....	....
2	29	7	1	....	....	....	....	....	....	3	13	x	7x 2	10	0	0	7	0	1	4	3x 3y	48 47
1	27	0	0	0	0	....	....	....	....	1	....	....	....	30	....	2	18	....	1	3	....	....
1x	20	0	0	0	0	0	2	....	1	1y	9	85	2	10	3	1	....	0x	1	3	3x	48
1x	16	0	0	....	....	....	....	....	....	1	....	....	....	30	....	....	46	....	1x	3	....	....
2	17	0	0	....	....	....	....	....	....	6	1	....	3	30y	....	0	1	....	1	4	3x	....
1	20	0	0	....	....	....	2	2	....	5	....	....	....	10	....	....	....	....	1	3	3	....
1x	17	0	0	....	....	....	3	3	....	1	....	....	....	60	4	0	1	0	1	4	1	....
1	21	0	0	....	....	....	3	3	....	3	....	....	....	10	....	....	....	....	1	3	....	....
2x	13	0	0	0	0	....	4	....	....	3	8	....	x	10 30	....	0 0	1	....	1	4	6 3x	x x
2x	21	0	0	....	....	....	4	....	....	1	5	....	....	10	0x	....	....	....	1	3	7x	x
1	17	0	0	0	0	....	....	....	....	1x	21	y	1	20	3y	1	9	0	1	3	3y	....
2	31	0	0	0	0	....	3	....	....	1x	....	....	....	61	4	0	....	0	1x	2	2y	x
1	....	....	....	....	....	....	3	....	....	1x	....	....	2	67	3	0	0	....	1	4	6y	....
1	17	0	0	....	....	....	3	....	....	1x	....	....	1	40	3	....	1	....	1	4	6x	....
1	33	6	0	0	0	0	3	....	....	1x	....	....	1	60	1	0	....	0	1	3	7	x
2	22	0	0	0	0	....	....	....	....	3x	4	45	2	10	3	1	9	0y	1x	3	3y	....
1	....	....	....	....	....	....	....	....	....	1x	....	....	....	20	....	....	....	....	1	4	3x	....
1	19	0	0	....	....	....	....	....	....	1x	27	90	2	22	3	....	9	0x	1	3	7	....
2	22	1	0	0	0	....	....	....	....	1x	21	y	2	20	....	....	9	0x	1	3	2x	....
1	27	....	....	....	....	0	3	5	....	1x	....	....	7	60	4	0	....	0	1	3	3	x
1	29	y	....	....	....	....	3	5	....	1x	....	....	....	60	4	0	....	0	1	3	6	x
1	19	0	0	....	....	....	4	5	....	6	....	....	7	6x	3	....	1	....	1	4	....	x
1	36	0	0	0	0	....	2	3	....	3	....	....	....	1y	0	....	4	....	1	4	6	....

ECLAMPSIA HISTORIES, CODED

GROUP II

Color and Condition	Age	Children	Abortions	Heart	Lungs	Wass.	Blood Pressure	Urine	Pelvis	Attendance	Total Duration	Duration 2nd Stage	Presentation	Operation	Anesthetic	Perineum	Days in Bed	Placenta	Complications	Cond. of Mother	Cond. of Child	Length of Child
1	20	0	0	0	0	....	3	....	....	1x	....	....	2	10	0	....	1	0y	1	4	7	....
1	20	0	0	0	0	0	3	....	....	1x	....	....	2	20	1	1	9	0	1	3	3	....
2x	17	0	0	0	0	0	2	....	....	1x	18	90	2	30	0	0	....	0	1	4	3y	....
1	22	0	0	0	0	....	....	....	....	3x	3	....	2	2	4	1	....	0y	1	3	3x	....
1	....	0	0	5	....	....	....	....	....	3	....	....	....	20	....	....	....	0	1	3	3	....
1x	20	0	0	....	....	....	....	1	....	1	11	....	2	30	4	1	....	0	1	3	3	54
2x	....	....	....	....	....	....	....	....	....	1x	....	....	....	40	....	....	....	....	1x	4	6	....
2x	17	0	0	0	0	....	3	....	1	4x	....	....	....	10	0	0	9	0	1	3	3y	48
1	18	0	0	....	....	....	3	1	....	5	....	....	....	10	....	....	....	....	1	3	3	....
1y	28	0	0	0	0	....	2	....	5	3	11	y	3	2	3	2	3	0	1	4	3y	53
1x	21	0	0	0	0	0	3	1	1	1y	....	60	2	30	4x	1	10	0	1	3	3y	48
1	27	2	....	0	7	....	2	2	....	5	....	....	....	10	....	....	7	....	1	4	3	....
1x	16	0	0	0	0	....	3	....	....	1x	....	....	1	10	....	....	10	0x	1	3	3y	50
1x	18	0	2	0	0	0	2	....	1	1y	37	5	3	2	3	0	9	0	1	3	3y	48
1	42	1	0	0	0	4	4x	2	1	1y	5	35	2	30x	0x	0x	....	0y	1	3	7x	50
2	....	....	....	0	0	....	4	....	....	1	30	....	2	40	....	2	5	x	1x	4	3x	....
2	17	0	0	0	0	4	....	....	1	3x	13	y	3	10	0x	0	9	0	1	3	6y	49
2	20	0	0	0	0	....	....	....	....	1	10	....	2	20	4	2	....	....	1x	3	7x	45
1x	19	0	0	0	0	0	2	1	1	1y	9	y	1	20	4x	2	....	0	1	3	3y	49
2	19	1	0	0	....	....	....	1	....	1	....	....	7	....	0x	....	1	....	1	4	....	....
1x	17	0	0	0	0	0	2	1	5	1	10	10	4	2y	0x	0	3	4x	1	3	6y	53
1	25	0	0	0	0	0	3x	3	2	1y	14	10	3	2x	3x	0	16	4x	1	3	3y	49
1	21	....	....	....	....	....	3	3	....	6	21	....	2	30	3	2	3	4y	1	3	3x	52
2	25	1	2	0	0	0	3	2	1	1	1	5	1	10	....	0	15	....	1	3	7y	46
2x	19	0	1	0	0	0	3	1	5	1xy	7	....	2	10x	0	0	9	0y	1	3	6y	x
1x	19	0	0	0	0	0	2	....	1	3	17	....	2	10	3	2	9	0	1	3	3x	55
1	36	0	0	0	0	0	....	5	....	5	....	....	....	30	....	2	28	....	1	3	7	....
2	24	1	0	0	0	0	2	3	1	1y	....	....	....	2x	3	x	....	....	1	3	3x	x
2	26	0	0	0	0	0	3	5	....	3	....	....	....	10	0	....	....	....	1	3	3	....
2	19	0	0	0	7	0	3x	....	....	1	....	....	....	10	0	0	....	4	1	3	4	....
2	21	0	0	0	0	....	3	3	....	1	16	....	2	20	0x	0	....	4	1x	3	3y	53
1	28	y	....	....	....	0	....	2	....	1	2	....	1	2x	3	0x	....	....	1x	3	3x	....
2	30	2	0	0	0	....	3x	....	....	1	....	....	....	....	x	....	1	....	1	4	....	....
2x	13	0	0	0	0	0	3	2	1	1y	....	....	....	10	....	1	21	....	1	3	3y	....
1	17	0	0	....	....	....	3x	5	....	1	15	10	7	6x	4x	1	....	0x	1x	3	7y	44
1	25	1	0	0	0	0	2x	1	1	1y	22	7	1	2x	4x	0	5	4x	1	3	3x	52
2	17	....	....	....	....	....	2	5	....	3	....	....	....	10	....	....	....	....	1	4	6	....
1	26	0	0	1	0	....	3x	2	1	1	2	10	1	20x	4x	0	....	0	11	3	3	39
2	35	....	....	....	....	....	....	....	....	1	....	....	....	10	0	0	7	0	1	4	4	28
2	26	1	0	....	....	....	3	5	5	1	....	....	....	10	2	....	1	....	1	4	....	....
2	17	0	0	....	....	0	....	5	....	1	7	....	2	10	....	0	2	....	1x	4	4x	....
2	35	0	0	0	0	....	3	....	1	1	....	....	....	....	....	0	1	....	1	4	....	....
1	37	5	....	....	....	....	5x	5	....	1	....	....	....	....	....	....	1	....	1	4	....	....
1	27	0	1	0	0	....	4	....	1	1	10	10	3	2x	4x	0	....	4y	1	3	3y	46
1	22	0	0	....	....	....	1	3	....	2	....	....	....	10	0	0	6	....	1	3	7	x
2	19	0	0	....	....	0	3	5	....	1	....	....	....	10	0x	....	....	....	1	3	7	....
1	29	4	4	1	0	1	2	1	1	5y	....	....	....	8	....	0	....	....	1	3	6	x
2	28	1	3	0	0	0	1	....	1	3xy	5	5	2	10	0	0xy	9	0y	1	3	3y	48
1	38	0	0	....	....	....	3	....	....	1	54	30	4	10x	0xy	0	16	4y	1	3	6y	45
1	27	0	0	....	....	....	3	2	....	1y	25	20	1	34	8x	1	14	4y	1x	3	3y	48
1	25	0	1	0	1	....	3	1	....	5	....	....	....	12	3	0	....	0	1	3	3	....
1	24	0	0	....	....	....	4	....	....	1	15	10	1	30x	8x	0	4	4y	1	3	3y	35
2	38	0	0	0	0	0	....	....	....	1x	9	90	2	10	x	0	9	4y	1	3	3y	49
2	22	1	0	0	0	....	2	....	1	1y	....	....	....	60	....	xy	8	0	1	3	3x	49
2x	17	0	0	0	0	0	2	5	1	1	8	10	2	20	8	2	18	0y	1	2	6x	54
2x	20	0	0	7	0	0	4	5	....	1x	....	x	2	30	4	4	3	0x	1	4	6x	46
2	40	6	0	....	7	....	3x	5	....	1	9	....	....	10	x	1	....	4x	1	3	y	x
1	24	0	0	....	....	....	3	5	....	1	....	....	....	10	0x	....	....	....	1	3	3y	....

XUM

ECLAMPSIA HISTORIES, CODED

GROUP III

Color and Condition	Age	Children	Abortions	Heart	Lungs	Wass.	Blood Pressure	Urine	Pelvis	Attendance	Total Duration	Duration 2nd Stage	Presentation	Operation	Anesthetic	Perineum	Days in Bed	Placenta	Complications	Cond. of Mother	Cond. of Child	Length of Child
2	18	0	0	....	....	....	2	5	....	1	....	....	....	10	0x	....	....	....	1	3	7y	....
2	22	0	0	....	....	....	2	2	....	1	....	....	....	10	0	....	....	....	1	3	3	....
2x	16	0	0	0	0	0	3	0	1	1	10	....	2	10	0	0	8	4y	1	3	6x	48
2x	29	3	0	1	0	0	4	5	....	1xy	....	y	....	10	0x	1	11	4x	1	3	3y	51
2x	18	0	0	1	0	0	3	5	....	1x	10	75	1	14	8	1	9	4x	1	3	6y	44
1	22	0	0	....	....	....	4	3	1	1	12	15	4	20	5x	2	9	4x	1	3	7x	50
2x	17	0	0	1	....	0	2	1	5	1y	....	....	2	....	....	1	....	4y	1x	3	7x	51
2x	19	0	0	....	....	....	3	5	....	1	....	....	....	10	0	....	....	....	1	3	6y	....
1	22	0	0	0	0	0	2x	1	1	3	....	....	....	10	....	....	....	....	1	3	3x	....
2	19	0	0	....	....	....	3	5	....	1	....	....	8	2	....	....	....	....	1	3	6x	....
2x	17	1	0	1	0	0	3	3	1	1x	....	....	2	10	1	0	19	0x	1	1	6x	51
2	17	0	0	....	....	....	3	1	....	3	....	....	....	....	....	....	....	....	1	3	....	....
2x	19	0	0	0	0	....	3	1	....	4	....	....	....	10	0	2	8	....	1x	3	3x	....
2	17	0	0	....	....	....	4	5	....	1	....	....	....	10	0x	....	....	....	1	3	6	....
1	38	6	0	0	0	....	3	3	....	1	16	y	2	10	4	0	12	4	1 3	3	6y	48
1	23	0	0	0	0	....	4	3	....	1	13	....	2	30	0x	1	....	0x	1	3	6x	55
1	19	0	0	....	....	....	....	5	....	1	....	....	....	60	5	0	....	....	1	3	3	....
2	36	4	0	....	....	....	4	5	....	1	....	....	....	14	0x	....	....	....	1	3	6	....
1	36	y	....	....	....	....	4	5	....	1	....	....	....	10	0x	....	1	....	1	4	6x	....
1	25	0	0	....	....	....	....	2	....	1	....	....	....	20	....	....	....	....	1	3	3	....
2	18	0	0	....	....	....	2	5	....	1	....	....	....	10	0x	....	....	....	1	3	6x	....
2	21	0	0	....	....	....	2	5	....	1	....	....	....	10	0x	....	....	....	1	3	3x	....
1	29	7	0	0	0	....	3	....	....	1	5	20	2	10	4	0	....	4x	1 3	3	3x	44
2	20	0	0	0	0	....	....	....	....	5	....	....	....	30	....	0y	....	....	1	3	....	....
2	19	0	0	0	0	0	3	5	....	1	7	....	8	2	4	0	8	4y	1	3	3	56
2	18	0	0	....	....	....	3	5	....	1	....	....	....	10	0x	....	....	....	1	3	7x	....
2x	21	0	0	....	....	....	4	5	....	1	....	....	....	10	0x	....	....	....	1	3	6	....
2	36	y	....	....	....	....	4	3	....	1	....	....	....	10	0x	....	....	....	1	4	6x	....
1x	17	0	0	0	0	0	3	....	1	1y	17	....	2	10x	0x	0y	7	4x	11	3	6y	46
2	21y	1	0	1	0	0	2	....	....	1y	....	....	....	....	....	....	....	....	1	3	....	....
2	18	0	0	....	....	....	....	....	....	1	3	10	7x 1	10 10	0	1	....	x x	1	3	3 3	47 46
1	19	....	....	....	....	0	....	5	....	1	6	2	2	2x	4x	0	....	0y	1	3	3	51
1x	16	0	0	....	....	....	3	5	....	3	....	....	....	....	....	....	....	....	1	3	....	....
2	22	0	0	....	....	....	4	5	....	1	....	....	....	14	0x	....	....	....	1	3	6	x
1	17	0	0	....	....	....	3	5	....	3	....	....	....	10	....	....	....	....	1	3	3	....
1	18	0	0	....	....	....	3	5	....	1	9	x	1	20x	8x	0	....	4y	1	3	3x	43
1	21	1	0	1	0	0	2	3	1	1y	9	32	1	10	....	1	5	0y	1	3	3y	48
2	22	0	0	....	....	....	2	5	....	1	....	....	....	10	0	....	....	....	1	3	6	....
1	36	y	....	....	....	....	3	5	....	3	....	....	....	....	....	....	....	....	1	3	....	....
1	18	0	0	....	....	....	2	5	....	1	....	....	....	10	0x	....	....	....	1	3	3	....
2x	17	0	0	....	....	....	3	....	....	1	....	....	....	10	0x	....	....	....	1	3	3	....
2	40	y	....	....	....	....	3	5	....	1	....	....	....	10	0x	....	....	....	1	3	6	x
1	21	0	0	....	....	....	....	....	....	1	7	15	2	2x	8x	0	....	4x	1	3	3y	....
2	35y	y	....	....	....	....	3	5	....	1	....	....	7	6x	....	....	....	....	1	3	3	x
1	17	0	0	....	....	....	3x	5	....	1	....	....	....	30	....	....	....	....	1	3	3	....
2	17	0	0	....	....	....	4x	5	....	1	....	....	....	10	0x	....	....	....	1	3	3	....
1	20	0	0	....	....	....	3	5	....	1	....	....	....	10x	0x	....	....	....	1	3	6	....
1	38	0	0	0	0	....	3	5	....	1	....	....	....	10	0	0	26	0	1x	3	4x	....
1	23	0	0	....	....	....	3	5	....	3	....	....	....	10	....	....	....	....	1	3	....	....
1	24	0	0	....	....	....	4	....	....	1	8	....	7	20	0x	....	....	4y	1	3	3y	54
2	17	0	0	....	....	....	3	....	....	1	35	....	3	30	0x	1	....	0y	1	3	3x	54
1	29	0	0	....	....	....	3	5	....	1	....	....	....	10x	0x	....	....	....	1	3	7	x
1	17	0	0	0	0	0	3	3	2	1y	16	....	2	20	6x	0y	7	0x	1	3	3x	39
1	24	0	0	....	....	....	3	5	....	1	....	....	....	10	0x	....	....	....	1	3	3	....
1	32	y	....	....	....	0	2	5	....	3	....	....	....	10	....	....	....	....	1	3	....	....
1	24	0	0	....	....	0	3	5	....	1	25	....	....	10	0x	....	....	....	1	3	3x	....
2	30	4	....	....	....	....	3	5	....	1	30	....	....	10x	0x	0	....	....	1	3	6y	40

ECLAMPSIA HISTORIES, CODED

GROUP III—CONTINUED.

Color and Condition	Age	Children	Abortions	Heart	Lungs	Wass.	Blood Pressure	Urine	Pelvis	Attendance	Total Duration	Duration 2nd Stage	Presentation	Operation	Anesthetic	Perineum	Days in Bed	Placenta	Complications	Cond. of Mother	Cond. of Child	Length of Child
2	....	0	0	....	....	....	4	5	....	2	....	....	....	10	0	....	....	....	1	3	....	....
2x	17	0	0	0	0	....	3	5	....	1	....	....	....	10	0x	....	....	....	1	3	3	x
2	32	5	0	0	0	....	4	5	....	1	....	....	....	10x	0x	....	....	0	1	3	....	....
1	29	0	1	....	....	....	2	2	....	6	....	....	....	10	0	....	....	....	1	3	3	51
2x	16	0	0	0	0	....	4	3	2	1	....	....	....	10	0	1	12	0y	1	3	6y	52
2	23	0	0	0	0	0	2	5	1	1	11	70	2	10	0	0	14	y	1	3	6x	32
1	22	0	0	....	....	....	....	....	....	3	....	....	....	20	....	....	....	....	1x	3	3	....
1	33	0	1	3x	0	0	4	3	1	1y	....	....	....	10	0x	0	....	....	1	3	4x	11
1	34	0	1	0	0	0	3x	2	1	1y	24	....	2	60	5	0	67	0	1 3x	3	6y	51
2x	29	3	0	0	0	0	....	....	1	1xy	10	y	2	10	0	1y	9	4y	1	3	3y	51
2x	16	0	0	0	0	0	3	5	3	1	....	....	....	10	0	0	16	....	1	3	....	....
2x	17	0	0	0	0	0	3	5	1	1	11	6	2	10	0	0	15	y	1	3	3	48
2x	19	0	0	0	0	0	3	2	....	1	....	....	....	10	0	0	23	0	1x	3	5	x
2	23	1	0	0	0	0	3	2	1	1x	3	30	2	10	0	0	10	y	1	3	6x	47
2	23	1	0	0	0	0	3	2	1	1x	3	....	....	10	0	0	6	y	1	3	3	....
1	27	0	0	0	0	0	3	3	5	1y	18	10	2	2x	4x	0	....	4y	1	3	3y	45
1x	19	0	0	0	0	0	2x	1	1	1y	6	20	1	30x	8x	1	8	0y	1	3	3y	44
2x	17	0	0	0	0	0	3	5	1	1	24	y	2	20	....	1	8	0x	1	2	7x	49
2	33	0	0	1	0	0	4	5	1	1	44	30	1	10	0	0	14	0x	1	4	6y	48
2x	16	0	0	0	0	0	2	1	4	1x	52	....	2	60	8	0	3	0y	1x	4	6y	47
1	21	0	0	0	0	....	2	....	....	1	....	....	....	....	....	....	2	....	1	4	....	....
2	22	0	0	0	0	0	2	5	2	1y	....	....	1	70	0x	0	21	0x	1x	2	6x	44
1	29	....	....	0	0	0	3	5	1	1	....	....	....	10	0x	0	10	....	1	4	3y	....
2	24	0	0	0	0	0	2	7	4	1	52	y	2	10	4x	2	14	0y	1	3	7y	51
2	18	1	0	0	0	4	4	5	1	1	....	....	2	10	0x	0	11	0y	1x	2	6y	53
2x	17	0	0	0	0	4	3	5	1	1	....	....	2	10	0xy	0	17	0x	1	3	7y	37
2	26	1	0	0	0	0	3	5	1	1	....	....	2	....	....	0x	12	0y	1	3	7y	54
1	30y	1	1	0y	0	....	2	....	1	1	19	10	2	1x	4x	0	11	4y	1	3	7x	42
1x	19	0	0	0	0	0	3	....	1	1	20	31	1	30	8	1	20	0y	1	3	3x	47
1	26	0	1	0	0	0	3	2	2	1y	6	65	1	20	8x	0	9	4y	1	3	7y	43
1	18	0	0	0	0	0	....	5	....	1	....	....	....	30	....	2	....	....	1x	3	6x	y
1x	23	0	0	0	0	0	2	....	5	1y	13x	....	1	20	3	1	13	0y	1	3	3x	52
2x	15	0	0	0	0	0	2	....	....	1x	....	....	....	10	0	0	9	0	1	3	3x	48
1	21	0	0	0	2	....	4	....	....	1	12	5	2	2y	2	0	1	0y	1	4	6y	51
2x	19	0	0	0	0	0	3	5	1	1	5	65	2	10	0	1	9	0	1x	2	3y	....
2x	22	0	0	0	0	0	3	5	....	1	8	x	1	10	0	0	12	....	1x	3	6x	48
2x	18	0	0	0	0	0	3	2	1	1	....	30	2	10	0	0	6	0y	1	3	7x	40
1x	26	0	0	0	0	....	4	5	....	1	11	....	2	10	0x	0	6	4y	1	3	7y	38
1	29	4	0	0	0	0	3	5	....	1	7	7	2	2x	6x	0	8	4x	1	3	3x	49
1	19	0	0	0	0	....	2x	3	....	1	14	....	2	20x	4x	4	3	4y	1	3	6y	44
2x	16	0	0	0	4	0	3	2	....	3	....	....	....	10	0	2	14	....	1	3	3y	....
2x	18	0	0	0	7	0	3	5	....	1	3	25	2	10	0	0	11	0y	1	3	6x	41
2	16	0	0	0	2	0	3	3	....	4	....	....	....	10	0	0	10	....	1	3	3x	....
2x	15	0	0	0	7	0	3	5	....	1	4	50	2	10	0	0	9	0y	1	3	6x	45
1	29y	1	0	....	....	....	3	....	....	1	13	....	x	10x 2	1x	....	....	....	1	3	3y 3y	51 49
1	34	4	0	1	0	....	4	5	....	1	9	....	2	10x	0x	0x	7	4y	1	3	3x	52
1	40y	7	1	0	0	0	2	....	1	1y	....	....	....	2	....	xy	....	....	1	3	7x	y
2	21	0	0	0	0	0	3	3	2	1	13	40	2	10	0	0	14	0y	1	3	6y	46
2	17	1	0	7	7	4	3	3	....	1	....	....	....	....	....	....	7	....	1	3	....	....
1x	19	0	0	0	0	0	3	....	1	1y	6	10	1	2y	2	4	17	0y	1	3	3x	53
1	27	1	1	0	0	....	2	5	....	1	5	15	3	20	4x	0	....	4y	1	3	3x	49

pelvis, "4" rachitic pelvis, and "5" a funnel pelvis. In the next column "1" means delivered in a hospital, "2" unattended, "3" a home delivery, "4" midwife, "5" another doctor, "6" consultation, and "y" prenatal care. The duration of labor is given in hours in the next column and the duration of the second stage in minutes in the following column; "x" means two hours, and "y" means three hours or more. In the presentation column "7"

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means breech, "8" transverse and "x" twins. Under operation, "y" means accouchement forcé, "x" bags, "1" Braxton Hicks version, "2" Potter version, "10" a spontaneous delivery, "20" low forceps, "30" midforceps, "40" high forceps, "60" to "67" various types of Cesarean section, "70" craniotomy. Under anesthesia, "3" means chloroform, "4" ether, "2" spinal, "8" sacral, "x" morphine and "y" bromide and chloral. In the complication column "1" means eclampsia, "11" eclampsia and placenta previa, "3" ablatio placenta, and "x" infection. In the column for the condition of the mother "4" means died, and in the next column, "3" means condition of the child good, "4" an abortion, "5" a non-viable premature, "6" a still birth, and "7" a neonatal death. The length of the child is given in centimeters in the next column. "x" in this column means premature and "y" postmature. For further details of the code I refer you to my article, "Vitalizing Obstetric Records."[4]

You will see at once that eclampsia is a disease mainly of youth. One of my patients was thirteen years of age, while seventeen was a favorite age. Many were unmarried. You will also notice that few had prenatal care. Notice also the frequency of accouchement forcé and operative delivery in the group I cases. The code does not show the time of delivery in reference to the convulsions, but in this group it was undertaken while the patient was having convulsions as our concern was primarily to relieve the patient of the cause of her convulsions. Note also that the usual anesthetic is chloroform. In the next fifty-eight cases, or group II, you will notice that anesthesia is used less frequently and when it is employed it is usually ether. The operations in this group are more conservative in character, and while it is not shown by the code, were largely undertaken after the convulsions were controlled. In the last group conservatism is carried to the extreme.

The maternal mortality for the three groups

TABLE I—MATERNAL DEATHS

	Number	*Per Cent*
Group I (38 cases)	12	31.6
Group II (58 cases)	15	25.9
Group III (108 cases)	6	5.6

is shown in Table I. If time permitted, I would like to go over in detail all the maternal deaths. I will, however, describe the six in group III. The first one was admitted to the Memorial Hospital in convulsions. She had two convulsions after entering the hospital, delivered herself of a still born infant, and died in eleven hours without regaining consciousness. She was treated with morphine, colonic irrigations and venesection. The second case was admitted to St. Philip Hospital in convulsions. She had a spontaneous delivery of a still born baby, and died in twenty-four hours. The treatment in her case consisted of morphine, high colonic irrigations, and digitatone. Chronologically, these belong in this group, but actually they belong in group II. The third patient died of pneumonia in St. Philip Hospital nine days after delivery, which was done after her convulsions were controlled. The fourth case was that of antepartum convulsions in a negro woman with a flat rachitic pelvis. A Cesarean section was done after a trial labor of fifty-two hours. The patient died of peritonitis on the fourth day after the operation. The fifth case was that of an epileptic who developed eclampsia. She was given magnesium sulphate repeatedly with apparently no effect. She died undelivered. The sixth was that of fulminating eclampsia. The patient had convulsion after convulsion in rapid succession in spite of intravenous magnesium sulphate and morphine. I did a version and extraction, as the cervix was fully dilated, under spinal anesthesia. The baby was still born, and the mother died eight hours later in coma. These two are the only cases in which I was unable to stop the convulsions with magnesium sulphate. Sodium amytal promises to be valuable in such cases.

The question, what happens to the mothers who survive, is an interesting one and quite important to the obstetrician. Is there any impairment of their health? Is the risk in subsequent pregnancies enhanced? Bund[5] followed seventy-six eclamptics who survived at the Marburg Clinic and found that 20 per cent of them remained sterile, 20 per cent had eclampsia at subsequent pregnancies, 10 per cent developed chronic nephritis, and 4 per cent developed epilepsy afterwards. The babies that survived the first week had as good a chance as any other babies.

The follow-up in my cases has not been as complete as I would like. In the first place, the names of the colored patients are often incorrectly recorded, and in the second place

many of the unmarried white women come from other states and have been lost sight of completely. Most of the private patients have been easily traced. The records of the Hospital Division of the Medical College of Virginia have been searched for subsequent admissions, and the files of the City Health Department and the State Registrar of Vital Statistics were searched for deaths and births. I take this opportunity of thanking the personnel of these bureaus for their help, without which this part of my paper would be more imperfect still.

Of the cases delivered before 1910 seven have been traced. The first one of my series has had a total of three children and ten abortions. Some of these were spontaneous and some were induced, but all were associated with toxemia. She passed out of the picture at 38 years of age with a blood pressure of 240/140, albuminuria, cylindruria, constant headaches, breathlessness, and an enlarged bleeding uterus. A second patient went through her next pregnancy under the care of Dr. E. T. Rucker without complications, but died of cerebral hemorrhage and hemiplegia at a later pregnancy. A third is in poor health and has had no subsequent children. One is in good health and has had no subsequent children. Two have had still born infants, and one a live born infant 47 cm. long. The labor in this case was induced on account of blurring of vision and albuminuria.

Of the patients delivered between 1910 and 1915, one has had two subsequent children and two abortions. One died of uremia at a subsequent pregnancy, and one died within a year of tuberculosis.

Of the 1915-19 group, one is in good health and has had no children since. One is in good health and has had one child since. One died in 1929 of acute yellow atrophy, and one died in the insane asylum of manic depressive insanity and tuberculosis.

Of the 1920-24 group, one is in good health, no subsequent children. Three are in good health and each has had one child since. One is in good health and has had one live baby and one abortion. One had toxemia at a subsequent delivery and a premature baby that lived two days. One died at her next delivery of toxemia and some sort of operative intervention.

In the 1925-29 group seventeen have been traced. Ten are in good health, no subsequent pregnancies. Two are in good health except for headaches, and each has had one subsequent child. One has had two subsequent children. One had toxemia at a subsequent pregnancy and a premature still born baby. One has died of tuberculosis; one of cardiac hypertrophy and interstitial nephritis; and one has died within a year of eclampsia. This is the only case that I have been able to find in which there has been a second attack of eclampsia.

The six 1930 patients are all apparently in good health.

The question can be approached from a somewhat different angle by studying the cases in which there is a history of eclampsia. I have thirty-four private cases who gave the history of having had convulsions at a previous pregnancy. It is to be presumed that these patients take better care of their health than do the clinic patients. Of these all but four were pregnant. One had a low blood pressure, twenty had normal blood pressures, twelve had moderately high blood pressures and one had a blood pressure of more than 250 mm. of Hg. Five of the thirty-four had albuminuria. Twenty had normal babies, three had still births, five had abortions, and two had babies that died shortly after they were born. In this group of thirty-four women, one mother had ten children after her eclampsia, three had six children, one had five children, one had four, two had three, five had two, and twelve had one child after the eclampsia. Four had no children subsequent to their convulsions.

Conclusions

The immediate mortality in eclampsia varies from 5.6 per cent to 31.6 per cent according to the treatment.

My follow-up has been too imperfect to permit of definite conclusions. One gets the impression that having eclampsia is a definite handicap. A small number of patients died within a few years of cardio-vascular disease. One died of liver degeneration. Three died of tuberculosis.

Subsequent pregnancies enhance the risk although a considerable number go through pregnancy afterwards without complications and have normal babies; perhaps the majority have signs of toxemia with abortions and still births.

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Medical Arts Building.

MANAGEMENT OF A NORMAL LABOR IN THE HOME.*

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We are indeed a long way from our ideal in obstetrics, which should be "A nice, live uninjured baby, and a well, happy mother who is in as good physical condition after, as she was before pregnancy." Too many babies are being lost as the result of improper care and management at birth, and a great many mothers are being made invalids as the result of pregnancy and childbirth.

By careful prenatal care, the patient should be placed in such good physical condition, at the time of labor, that there will be little need of fear if the physician is half-way skilled in this field and is thoroughly clean.

Every patient should have a detailed history taken, a thorough physical examination made, pelvis measured and regular urine examinations and blood pressure readings made until the end of pregnancy. She should be instructed as to diet, elimination, exercise, care of breast and abdomen and cautioned to watch for danger signals and urged to report if any of these appear. With proper cooperation on the part of the patient one of the big problems of obstetrics, namely, eclampsia, should be avoided.

By vaginal examinations during the last two or three weeks of pregnancy we should learn a good deal about the cervix and the kind of labor to expect. If the cervix is long, thick and tough, the patient is going to have a long, tedious, hard first stage of labor. If there are scars, cystic growths or erosions, dilatation will be slower than it would otherwise. If the cervix is small, thin and has gradually dilated, we can be sure the first stage is going to be short and fairly easy. It gives the patient a good deal of satisfaction to be assured that labor is going to be fairly short and easy, and it is certainly a great comfort to the physician to know that his patient is in good physical condition and should have a short and easy labor.

About the eighth month of pregnancy, the patient should be instructed as to the proper preparation for labor. She should be given a list of the necessary equipment for the occasion and instructed in the preparation and sterilization of dry goods, utensils and hot and cold water. She should be instructed to call her physician when she is sure labor has begun, to take an enema, empty her bladder, take a shower or sponge bath (also cautioned against taking a vaginal douche or tub bath), to have the room arranged, the bed prepared, tables, basins, sterile hot and cold water and dry goods in place, and everything gotten in readiness for delivery.

The physician should have with him a case containing all the instruments and apparatus, dressings and medicines necessary for the usual case of labor and for the most common complications. It is a great satisfaction to the physician to know that everything for the proper conduct af labor has been provided and is in readiness.

Every labor call should be answered promptly. There is no time when the physician's presence is more desired and appreciated. It is also important that the patient be seen as early in labor as possible.

On entering the delivery room, the physician notes the general appearance of the patient, the frequency and strength of the pains, takes the pulse, temperature and blood pressure, checks over heart and lungs, and makes notes of findings as well as history of onset and progress of labor. During this time, the nurse is preparing water and utensils for scrubbing hands and puts on gloves and instruments to be boiled. While hands are being scrubbed and finger nails cleaned, the patient is being prepared for an abdominal examination. The position and presentation are diagnosed and fetal heart sounds located, rate and character noted.

With the abdominal examination completed, the physician puts on cap and gown and gets ready for internal examination. In the meantime the nurse gives the patient a thorough

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bath from umbilicus to knees, and mercurochrome is applied to vaginal walls and cervix and a sterile pad is placed over the vulva. It is better that all patients be shaved, but not essential, if proper antiseptic measures are taken. The hands having been thoroughly scrubbed in lysol or bichloride solution and gloves put on, the internal examination is made. Rectal examinations are advocated and should be done, but unless the examiner is very skilled, vaginal examinations are more satisfactory and can be safely done if proper antiseptic measures are taken, undue trauma avoided, and unnecessary examinations are not made. By vaginal examination, you note the size and consistence of the cervix, whether the os is open or the cervical canal shortened or effaced, the presentation and position, advancement of head and any abnormalities. This will give pretty good information as to what kind of first stage labor to expect and proper treatment.

The treatment of the first stage of labor is largely watchful waiting. The patient's resistance to infection should be supported by proper rest, food, relief of pain and prevention of unnecessary examinations and trauma. The bowels should be emptied by saline enema every twelve hours and bladder emptied every four hours, if necessary by catheter. If the cervix is thin and soft and labor is progressing nicely, it is advisable to keep the patient up as long as possible; this favors dilatation and aids progress of labor.

If the cervix is stubborn and the os is rigid, do not try to dilate manually. A manually dilated cervix is always a lacerated cervix and predisposes to hemorrhage and infection. Give morphine and let the patient rest. It will relieve the head of injurious pressure, will rest the uterus and the nervous system, and preserve the heart and life force of the patient. The os will soften; the cervix will dilate, and, when the patient awakes, the pains are resumed with increased force and labor is more often shortened than prolonged. There is no danger from the use of morphine if given at the right time and in proper dosage. Morphine, watchful waiting and strict asepsis in these stubborn cases will do much to prevent the greatest problem in obstetrics, namely, puerperal infection.

Delivery should not be considered and the patient should not bear her pains down until the cervix is fully dilated; it leads to exhaustion and gains nothing. In some cases, however, where the pains are lacking or ineffective, of short, jerky type, and the patient does not cooperate, labor may be prolonged for many hours; even though there is a good sized bag of water protruding through a fairly well dilated cervix, the head does not engage; a small dose of pituitrin (⅛ to ¼ c.c.) may shorten labor many hours and cause no harmful results. Be slow to use it, however, and be sure there are no contraindications; unless you are, give something for pain and leave alone.

Bearing down pains and rupture of the bag of water do not necessarily mean that the second stage of labor has begun, however, a few sharp pains, attended by a show of bright red blood usually indicates that the head is passing through the cervix. This stage needs active supervision. Everything should be gotten ready for delivery. Some form of anesthesia should be started if not already begun. Chloroform and ether are most generally used. The fetal heart sounds should be listened to every few minutes and labor hastened if danger seems imminent. A full bladder and rectum are two common causes of delay in labor and should be watched for throughout labor. The bag of water should not be ruptured until the head is about ready for delivery. Pituitrin should not be used to terminate the second stage of labor. The danger of injury to the baby and damage to the mother are too great. Every possible measure should be taken to preserve the perineum. Deliver the head in forced flexions and as slowly as possible. Anesthesia produces relaxation and diminishes bearing down efforts. The head should be restrained if patient bears down violently. The shoulders should be delivered by natural forces; the physician aids only by directing mechanism. When the anterior shoulder comes down behind the pubis, the child is lifted and the posterior shoulder brought over the perineum. The child is then depressed and the anterior shoulder comes from behind the pubis; the rest of the body follows easily. To drag the child out of the uterus may tear the perineum or make a slight tear much deeper. No one can prevent all lacerations but they can and should be much less frequent.

Accidents of the third stage of labor cause more deaths than the other two combined. As the child is delivered, the hand follows the

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uterus down and rests on it. As long as the uterus is well contracted there will be no severe hemorrhage.

Care of the baby begins when the head is born. The eyes and forehead should be sponged off to remove vaginal secretions, a source of infection. Mucus is removed from the nose and mouth to prevent aspiration of foreign material. As soon as the baby is born it should be wrapped in dry towels and every effort made to maintain its temperature. Do not ligate cord until it ceases to pulsate. To do so will rob the baby of valuable food which will do more to resuscitate it than anything else. Rough, mechanical force is not necessary. When the cord has ceased to pulsate and the baby is breathing as it should, the cord should be ligated and cut, and the baby wrapped in warm blankets and left alone until the mother is cared for. The mother should have been watched for signs of hemorrhage or shock at all times. The perineum is examined for lacerations, which should be repaired at once. The proper repair of birth injuries to the mother and the prevention of hemorrhage, as well as infection, presents another of the big problems of obstetrics. The repair work may be done while waiting for the placenta to be delivered.

Nature intended that the patient deliver the placenta herself. Usually between ten and forty-five minutes after delivery the cord becomes limp, advances three to four inches and the uterus rises up into the abdomen indicating that the placenta has separated and has been expelled into the vagina. There is no need of waiting longer. It can be easily removed and should be as there will be less likelihood of clots forming. A hypodermic injection of pituitrin at this time, followed by ergot by mouth, will prevent hemorrhage and help to prevent after-pains, as fewer clots are formed. The placenta and membranes should be examined carefully to see if any small portions are left. If so, note should be made of it, but it is safer to let nature take care of it than it is to invade the uterus, unless you are absolutely sure there is enough left to cause trouble.

The patient should be bathed with a lysol or bichloride solution, band and dressing applied, and returned to her bed as soon as possible. With the mother cared for, the baby is carefully examined for any abnormality. Many babies die during the first few weeks of life because some abnormality, which should have been corrected, was overlooked. It is then sponged off with warm olive oil, drops put in eyes, umbilical dressing applied and dressed.

Complete written instructions should be given for the care of the child and mother during the puerperium. The patient should be seen on the third and fifth days, preferably daily, and instructed to call physician should anything unusual happen. Careful attention to the baby should be urged.

The final examination, around the sixth week, should be thorough, and proper attention should be given to any unhealed or infected areas as well as final instructions for further care of mother and baby.

Summary

While we do not undervalue the numerous advantages which the hospital offers in the management of a normal labor, we are convinced that the majority of cases can be handled safely and satisfactorily in the homes if we keep constantly in mind the following important factors:

1. Careful prenatal care.
2. Strict asepsis and watchful waiting during the first stage of labor.
3. Proper administration of anesthesia, strict asepsis, slow delivery and prevention of trauma and exhaustion during the second stage.
4. Strict asepsis, slow placental delivery, careful attention to baby, and prevention of hemorrhage, shock and infection in the mother during the third stage of labor.
5. Careful puerperal care and attention to the baby.
6. Thorough final examination and proper attention to abnormalities.

ENCEPHALOGRAPHY AS AN AID IN THE DIAGNOSIS OF BRAIN TUMORS—A CASE REPORT.*

By HOWARD R. MASTERS, M. D., Richmond, Va.
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Every neurologist has in his practice cases which show a few scattered neurological symptoms not characteristic of any particular type of lesion or disease. The diagnosis in such cases is frequently withheld and the patient observed until other diagnostic symptoms appear. The value of air in ventriculography (inject-

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ing air into the ventricles) has been well established by Dandy and other neuro-surgeons. In the past several years Temple and his associates have injected air by the spinal route, replacing the cerebrospinal fluid. This is known as encephalography. Roentgenographic studies of these cases have in many instances revealed cerebral defects and have been of value in localizing otherwise obscure lesions. The method of encephalography has become of practical value and can be used with safety when choked discs and increased intracranial pressure are not present. Air injection is of considerable diagnostic value to the physician, especially in revealing cerebral atrophy and other degenerative conditions due to inflammatory processes, hemorrhages, birth trauma and the like. In the past these cases have frequently been given indefinite opinions and have gone to physician after physician hoping to find some relief from the symptoms. Now a reasonably definite diagnosis can be given them.

The case herewith reported is one of a group of cases which have been studied by encephalography. This case presented a rather confusing clinical picture, the discussion of which is embodied in the case report.

A young married man, twenty-six years of age, an insurance agent by occupation, presented himself for examination early in September, complaining of nervous attacks. He gave a family history that his father had died of cancer of the prostate, his mother of an accidental fall, and two brothers and two sisters died early in infancy, the cause of which he did not know. His other brothers and sisters, his wife, and one child were all well. The patient was of normal birth and had the usual childhood diseases. He had influenza rather severely in 1918, some generalized pain in the past five years which had been regarded as arthritic, with some residual symptoms in the right hand at the time of examination. His arthritic condition was said to have begun after a muscle strain of the left arm. He had sinus trouble the latter part of July, and in August his tonsils were removed. All of his life he has been of a nervous temperament.

The nervous attacks of which he complained began just after Christmas, 1929, with a slight drawing of the fingers in the right hand together with slight nervousness, restlessness, anxiety, and some momentary numbness involving the right arm and face. These attacks occurred on an average of once a month until the fourteenth of September, 1930, when he developed a spasm of the fingers of the right hand and of the arm. This was accompanied by unconsciousness and frothing for fifteen minutes and was followed by sweating and slight headache. The second attack, occurring on September the twentieth, was similar to the first one, but was preceded by slight disturbance of vision, and during the attack he bit his tongue and vomited. His speech was also somewhat thickened after the attack. The patient denied an initial lesion or any venereal infection. His general physical examination revealed the following:

The patient was rather a well nourished individual with a florid complexion and had a slight stare of his eyes. His blood pressure was 136/88; pulse 80; there was no evidence of focal infection. He showed no especial endocrine disturbance from a clinical standpoint. His station and gait were normal and his cranial nerves were negative though there was a slight facial asymmetry on the left. His fundi were perfectly normal except for a slight vascular abnormality. On the right side he showed some upper ataxia, a moderate asterognosis, and an attempt at ankle and patella clonus. The right elbow and Achilles jerks were increased; the left jerks were diminished. The knee jerks were markedly exaggerated but equal. His abdominal reflexes were absent and there was a fine tremor of his right hand. Sensation was normal except as above noted. His thenar and hypothenar eminences showed very definite atrophy, bilaterally, and there was a contracture of both little fingers which had existed since birth.

The routine blood and spinal fluid Wassermanns and colloidal gold curve were negative. His spinal fluid showed a pressure of 14 millimeters of mercury, four cells and a slight increase in globulin. The blood cytology and stools were normal. His urinalysis showed an occasional pus cell and three red blood cells per high power field. His non-protein nitrogen was 35.3 milligrams per 100 c.c. of blood. Stereoscopic plates of his head revealed a thick skull wall, large accessory nasal sinuses, a number of areas of porosity of the skull involving the frontal and parietal regions on both sides varying from five to nine millimeters in diameter. The pituitary fossa was

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large, having a measurement in its horizontal diameter of 15 millimeters, vertical 11 millimeters, outlet 6 millimeters. The posterior clinoids were somewhat roughened and the head as a whole was of the acromegalic type.

During the course of his illness the patient had, on an average of once a month, Jacksonian attacks, involving his hand; only once did he have symptoms of headache or vomiting, and this was in the last attack three days before his admission to the hospital. Such attacks may be due to a new growth, or to inflammatory involvement and its sequelae. Although he gave no history of an initial lesion he had four brothers and sisters to die early in infancy which suggested the possibility of a hereditary specific condition. Though the absent abdominals suggested the possibility of increased intracranial pressure, his fundi were perfectly normal. A lumbar puncture was done and ruled out evidence of much increase in pressure, and syphilis, which the porosity of the interior of the skull indicated. The history of severe influenza in 1918, rheumatic infection for the past five years, and sinus trouble and infected tonsils four weeks before his first severe attack suggested an inflammatory process. An encephalogram was made and the report was as follows: "There is evidence of the presence of air in the basal systems and cortical pathways. The lateral ventricles do not contain any appreciable air. The left posterior parietal region has a large collection of air at the cortex which casts a somewhat irregular shadow although some of the shadows here seem to denote dilated cortical pathways." The encephalogram ruled out brain atrophy which might have been caused by an old inflammatory condition, and the irregularity of the shadows noted in the left parietal region so well corresponded to the area of cortical irritation as represented by the physical symptoms that a diagnosis of left cortical tumor was made. The patient was transferred to the Memorial Hospital where he was operated on by Drs. Coleman and Lyerly. Upon turning back the parietal bone flap they discovered an exostosis of bone which was irregularly shaped and in general ¾ inches in diameter, about ⅛ of an inch thick on the margins and came to a sharp point about ¼ of an inch thick in the center. The area underneath this plaque of bone was one of the porosities described in the first X-ray. Directly underneath this and almost completely invaginated in the brain over the motor area, and pressing against the sensory area, was an encapsulated tumor, 2¼ inches in diameter and 1½ inches thick. The dura was adherent to the exposed surface of the growth. The tumor was enucleated without great difficulty other than some hemorrhage. There was considerable edema and following the operation the patient had a paralysis of the left face and the right arm, and for four or five days was slightly confused. He also had a few tonic spasms of the lower extremities. The paralysis of his arm and face gradually cleared. He was discharged thirty-five days after the operation with only a slight residual paralysis.

On the eighth of January he returned and stated that he had had only one convulsion, which occurred on December the twenty-eighth, in which he was unconscious for five minutes. This involved only his right hand but was accompanied by biting of his tongue. His physical examination at the time of his re-examination showed a slight upper ataxia in the finger to finger test; grip was fifty in the right hand and seventy in the left; the atrophy of the intrinsic muscles of his hand was slightly improved; his right biceps jerk was hyperactive and there was a right Hoffman. His superficial reflexes remained absent.

It is believed that the patient still has some cerebral edema and some post-operative adhesions of his motor area. The tumor was diagnosed on gross section as dural endothelioma. Microscopically it showed many whorls.

SPRUE IN SOUTHWEST VIRGINIA: A CASE REPORT.*

By R. D. CAMPBELL, M. D., Saltville, Va.

This subject has not been chosen because of it being a practical one in this country, nor because I have observed or discovered anything new about sprue, but rather because it is so rarely encountered in temperate zones. While fairly common in tropical and subtropical countries, seldom is this disease considered a possible diagnosis in obscure conditions presenting suggestive symptoms but existing in cooler climates.

After all, it is the unusual disease or some unusual complication of an ordinary disease that makes the field of medicine so eternally

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interesting. Hence, at the risk of being impractical and, possibly, of incurring some doubt on your part as to diagnostic accuracy, I present these observations along with a brief report of the case which prompted them.

Sprue is a chronic, cachectic disease of the gastrointestinal tract, characterized by acute manifestations as the various parts of the tract become successively involved. The principal symptoms are (1) sore mouth and tongue, (2) burning, distention and general discomfort in the abdomen, (3) a light colored, frothy diarrhea, (4) progressive emaciation, and (5) anemia.

To Ashford belongs the credit for the most recent and exhaustive work on sprue. His observations were made in Porto Rico where the disease is endemic and highly prevalent. He found it occurring most frequently among the upper classes of people, who ate well and consumed quantities of fats and starches, and much less prevalent among the poorer classes where sanitary and dietary conditions were bad. In this respect the disease differs radically from most of the purely deficiency diseases.

Ashford indicts, as the direct cause of sprue, the Monilia psilosis, an yeast fungus which he isolated from the gastrointestinal tract of active cases. To give us an idea of the resistance of the organism, it might here be stated that he also recovered it as a culture from the inside of a loaf of baked bread. This yeast was present in over 87 per cent of Ashford's cases, thirty-six of which occurred in families in which there originally existed a single infected individual. This led him to classify sprue as a communicable disease with the Monilia as the exciting cause. He believed, however, along with others, that a hot climate and an improperly balanced diet produced an environment suitable for the growth of the responsible organism.

Cases of non-tropical sprue have been reported as originating in England, Germany and the United States. However, in cooler climates it runs a rather atypical course, showing well marked exacerbations and remissions as the seasons change.

Porter and Rucker have reported two cases of non-tropical sprue in Virginia, with all the clinical characteristics, but they were unable to demonstrate the Monilia psilosis either in the stools or mucous membrane of the mouth.

Case Report

C. W. S., white, Methodist minister, aged 65 years, came to our attention in July, 1929, complaining of sore mouth and tongue, recurring attacks of diarrhea, profound general weakness and loss of weight.

The gastrointestinal symptoms began about ten years ago. Since their onset they had persisted with occasional remissions but at no time had there been entire freedom from discomfort in the alimentary tract. The diarrhea consisted of large light foamy stools, numbering two to six a day, two or three at night, and usually gave rise to some burning and pain about the rectum. This occurred intermittently with constipation, at which time the patient was disturbed by fullness and discomfort in the abdomen. At this examination he was mentally clear and apparently free from nervous symptoms of any sort but was exceedingly discouraged because of increasing ill health. He stated that he was strongly considering giving up his pastorate entirely.

Physical examination showed marked emaciation and undernourishment in a rather large framed male whose normal weight was about 170 pounds. He now weighed 121 pounds. Six months previously his weight had been 155 pounds. There was no cyanosis, jaundice nor lemon-tinged skin and no edema. The tongue was red and fissured, with several small ulcers about its margins and tip. No chest pathology was found. The abdomen was moderately distended and slightly tender in the epigastrium. Proctoscopic examinations were not made.

Gastric analysis, after an Ewald test meal, showed a free hydrochloric acid content of 13 degrees and a total acidity of 22 degrees. The blood picture showed a red cell count of 2,800,000, hemoglobin 60 per cent (Talquist), and 7,000 leucocytes. The differential count gave 65 per cent polymorphonuclears and 35 per cent lymphocytes, small and large not differentiated. No nucleated red cells were found. Anisocytosis and poikilocytosis were not marked.

The stool specimens were bulky, light colored and frothy and were negative for blood, ova of intestinal parasites and amoeba. These specimens were examined in the State Laboratory and an organism identified as the Monilia psilosis found.

The patient was immediately put on liver extract and dilute hydrochloric acid with

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practically no dietary restrictions except to advise an increase of proteins and fresh fruit. Improvement, manifested by almost immediate and complete relief from disagreeable symptoms, return of appetite and a most satisfactory gain in weight, rapidly followed. In three weeks, the red blood count was 3,900,000 and hemoglobin 75 per cent. Two months later, the red cells numbered 4,600,000, with 80 per cent hemoglobin.

The liver extract equal to 480 grams of raw liver was given daily for four months after which a maintenance daily dose of 120 grams was administered for the following three months. There has been no recurrence of the disease despite the fact that except for small doses of dilute hydrochloric acid medication was discontinued a year ago. The patient now weighs 163 pounds and, except for an intervening attack of pyelitis, his health has been excellent.

The history, symptoms and laboratory findings, despite non-residence in the tropics, seemed satisfactorily to confirm a diagnosis of sprue as against that of pernicious anemia, the differential points being based on the character of the stools, the presence of appreciable amounts of free hydrochloric acid in the stomach, isolation of the Monilia psilosis, absence of neurologic symptoms, a blood picture at least atypical of pernicious anemia, and what to me seems rather important, the history of a disease which had existed several years without treatment.

SUMMARY OF CASE REPORT AND CONCLUSIONS

A patient who had never resided in or near the tropics developed or contracted sprue.

The disease may exist over a period of many years.

The response to liver extract and hydrochloric acid was most gratifying.

Sprue should at least be thought of as a possibility in all cases diagnosed as pernicious anemia.

EUGENIC STERILIZATION.*

By JOHN R. GILL, A. B., M. D., Petersburg, Va.
Central State Hospital.

Eugenics means the study and cultivation of conditions that may improve the physical, moral, and mental qualities of the future generations. Eugenics comes from the Greek word eugenos, which means well born. Eugenics, as applied to the human race, attempts through the limitations of defective lines and education to modify unfavorable factors for the progressive improvement of the race. It has long been recognized that selective breeding of animals would result in the progressive improvement of the animal. This knowledge has been applied to animals and plants for their upbuilding and improvement.

The human race has developed through countless ages under the laws of heredity by the survival of the fittest. The weak and defective have perished. But, in the present age, modern civilization and charity have interfered and changed nature's plans. The weak and defective are now nursed to maturity and produce their kind. Nature intended that only the best should breed by weeding out the unfit. But in the present age the best strains of blood are limiting their children to an average of one and two. As a result we are breeding much more rapidly from the bottom strata of the race than from the top.

Attempts to promote eugenics by radical measures are found as far back as history records. Legend relates that the mythical Queen Semiramis, of Nineveh, had weak and sickly males of her kingdom castrated in order that the racial stock might not deteriorate. A traveler in Palestine in the 13th century reported that thieves were castrated there in order that they might not produce sons who would be criminals like their fathers.

The ancient Greeks and Romans realized the principles of eugenics and destroyed the defective children by drowning or making the children undergo severe physical hardships. This resulted in the death of the weak and defective, and the survival of the strongest and fittest. This practice, however, was discontinued with the spread of Christianity through Europe.

The next eugenic measure to be practiced was that of segregation of the insane and mental defective. This prevented the reproduction of those who were unsound mentally as well as protecting society against them.

In 1779, Johann Peter Frank, a German physician, urged that the mentally diseased and the mental defectives be castrated to prevent the deterioration of the race. He was one of the precursors of the modern eugenic movement. In 1899, Dr. Harry Sharpe began sterilization of the boys at the Indiana State

*Read before the Southside Virginia Medical Association, at Petersburg, March 10, 1931.

Reformatory. He performed a vasectomy instead of a castration. While this was done without legal authority, it marked the beginning of eugenic sterilization in the United States. In 1909, the States of Washington and California adopted sterilization laws. Since that time numerous other states have passed sterilization laws, but it was left to the State of Virginia to pass the first eugenic sterilization law that was approved as constitutional by the United States Supreme Court in 1927.

To show why eugenic sterilization is of so vast importance, I will mention a few things concerning the problem of mental diseases in the United States. The number of known mentally diseased persons is now three times as great in proportion to the total population as it was in 1880. Part of the increase is due to the immigration of people from foreign countries who are mentally weak and who are not capable of adjusting themselves to life in America. Some of the increase may be due to the fact that people are now living longer than formerly and mental diseases that appear after middle life are more frequent. Another factor is that modern civilization, particularly in the cities, has become so complicated that it produces mental breakdowns in many people who attempt to struggle in the cities for a livelihood. In addition to these factors there has been a tremendous increase in the number of mental defectives in this country by reproduction. Statisticians have estimated that at the present rate of increase in insanity, something like four people in each one hundred of population of the United States will be classified as insane before they die. In addition to the insane, it is estimated that 4 per cent of the total population of the United States are mental defectives. Thus you see why the mental problem in the United States is of such vast importance and why eugenic sterilization is going to be one of the chief measures in the fight against the great increase in mental diseases and mental defectives.

Sterilization produces no change in the sexual life. No organs or glands are removed from the body. It produces no physical change and sexual feelings are not altered. Something like 6,000 sterilization operations have been performed in California and the opinion of the California authorities is that sexual life is unchanged in a sterilized person. Sexual life has been increased in some of the patients that were operated upon. This may be due to the fact that these people knew that they should not have children who would possibly be mentally diseased, and as a result prior to the operation their whole life was abnormal. Thus eugenic sterilization, so far as can be judged, has no other effect on the individual than to prevent parenthood.

There are numerous methods of sterilization at the present time. In the male a simple vasectomy is usually performed. The vas deferens is located, stripped of the accompanying blood vessels and nerves and clamped in two places. Then about half an inch of the vas deferens is removed and the cut ends are ligated. A local anesthetic of novocaine is usually used. This is a very simple operation and necessitates the patient being in bed only a short time.

There are several methods of sterilization in the female. One of the methods consists in excision of a wedge shaped portion of the fallopian tube at the cornea of the uterus with careful burying of the tubal stump in the broad ligament. Then suturing and peritonization of the uterine wound is done. Another method is the removal of a section of the fallopian tube and burying the ends of the tube in the broad ligament. Another method is removal of the fallopian tube. At the Central State Hospital we use the Madlener operation. In this operation the fallopian tube is angulated, crushed, and ligated at the cornea of the uterus. This is a very simple operation and can be quickly performed. In addition, it has the advantage of being practically bloodless. In Europe where this operation was originated, there have been no reported failures by this method. We have had no known failures at this hospital with the Madlener method of sterilization. The classical method of sterilization, consisting of removing a wedge shaped portion of the fallopian tube at the cornea of the uterus, is reported to be unsuccessful in from 6 per cent to 10 per cent of the operations. There are numerous other methods of sterilization in the female which are not used very much, such as electric cautery applied to the uterine end of the fallopian tubes and also removal of the fundus of the uterus by operation.

At Central State Hospital we have sterilized 166 women and seventy-nine men. This makes a total of 245. There have been approximately

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800 sterilizations performed in the State of Virginia since 1927.

At this hospital we have just begun the checking of the sterilization cases by X-ray, using lipiodol. The lipiodol is forced into the uterus by means of a special instrument at a pressure of 150 millimeters of mercury. If a woman is effectively sterilized, the lipiodol will remain in the uterus and not spread to the fallopian tubes or through the uterus to the abdominal cavity, depending upon what type of operation was used. By this method we have an absolute check as to whether the patient is sterilized and cannot reproduce.

Eugenic sterilization is not a panacea but it is one of the eugenic measures which will help to reduce the racial and financial burdens of this and future generations. It should go far in eliminating the insane and mental defectives of the future, and should result in the progressive improvement of the race.

SPOROTRICHOSIS—REPORT OF A CASE IN VIRGINIA.

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and
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Although several hundred cases of sporotrichosis have been reported since the fungus was isolated, in 1898, by B. R. Schenck, this infection has been but rarely recognized in Virginia.

Schenck[1] described the first case as an unusual infection following a scratch of the index finger by a nail. From this point the infection extended along the lymphatics up the arm, giving rise to multiple, subcutaneous, refractory abscesses. From two of these abscesses he isolated, in pure culture, a fungus which was classified by Dr. Erwin F. Smith as possibly related to the sporotricha. From these cultures Schenck made careful descriptions of the growth, the morphology of the fungus and the results of animal experiments.

In 1900, Hektoen and Perkins[2] observed a similar case with an almost identical course. The infection followed an abrasion of the finger from a blow by a hammer. From the subcutaneous abscesses which followed on the forearm, an organism was isolated which was identical in all essential details with the one reported by Schenck. The name Sporotrichum schenckii was suggested by Hektoen.

In 1909, Trimble and Shaw[3] reported a case in which the lesions were distributed over the insertion of the deltoid muscle of the left arm, and along the lymphatics on either side of this muscle.

From this time it is quite apparent, from the number of cases reported, that sporotrichosis is to be regarded as a clinical entity.

As encountered in America, the infection follows some abrasion of the skin or mucous surface. This is invariably followed by superficial ulceration with deep cutaneous nodular inflammation along the lymphatic channels, terminating in ulceration. All of the ulcers are superficial with a thin, pale, slightly undermined, pigmented border. The nodules are deep within the subcutaneous tissues. They are movable, painless, hard and with a dense connective tissue reaction about a purulent center. The face and the extremities are the favorite sites of attack, but a number of tissues and structures have been involved. Of the latter, the following may be mentioned: bone,[4] joints,[5] pharynx,[6] muscle,[7] eye-lids,[8] mouth, larynx, trachea,[9] eye,[11] lung,[10] breast,[12] genitalia,[13] lung metastases,[14] large intestine and finger nails.[15]

Although in most of the reported cases the lesion followed some mechanical injury, Davis and Moore[16] reported a case in which infection followed a mouse bite. Sutton[17] had a case in which the wound was due to the peck of a chicken. Olson[18] reported a case which was probably contracted from gophers. Lane[19] reported five cases due to contact with domestic animals.

De Beurmann and Gougerot[20] have attempted to classify this disease into three general types: syphilitic, tuberculoid and wart-like or papillomatous forms. The syphilitic variety is considered by far the most frequent and is characterized by multiple, scattered subcutaneous abscesses resembling a gumma-like lymphangitis. When these abscesses spontaneously ulcerate they resemble ecthymatiform tertiary syphilides. The tuberculoid form resembles subcutaneous, tuberculous gummata and is characterized by slow development, slow healing and a remaining irregular, stellate scar. The warty variety is characterized by lesions resembling papillomatous, dermatic warts, which are, sometimes, so characteristic of ulcerative lymphangitis.

The causative organism, Sporotrichum

schenckii, may be demonstrated in the pus of the abscesses by Gram's method of staining or by the use of 20 per cent sodium hydroxide solution. It is Gram positive, single-celled and

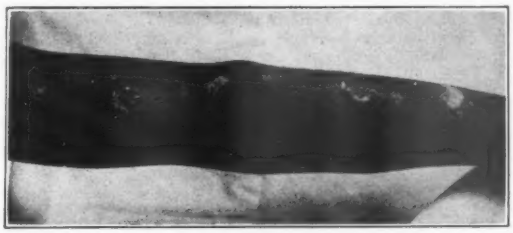

Fig. 1.—Sporotrichosis of arm, showing characteristic lesions.

spindle-shaped, and is most frequently demonstrated within the polynuclear leucocytes. In some cases it is necessary to resort to cultural methods in order to demonstrate the organism.

Pure cultures may be obtained if made from the abscesses which have not spontaneously ruptured. The fungus grows well on ordinary nutrient agar, but the growth is somewhat more profuse if a small amount of dextrose is

Fig. 2.—Sporotrichum schenckii. Growth on nutrient agar. X500.

added to the medium. Growth is perceptible in twenty-four to forty-eight hours as a faint, slightly opaque, whitish growth, resembling a bacterial growth rather than a fungus one. As the culture ages, the surface may become wrinkled and the color turn from cream or light tan to a brown or black. Aerial mycelium rarely develops and the surface of the growth generally remains slimy.

Microscopical examination of the growth from agar shows the organism to consist of a branching mycelium from which ovoid conidia develop either from the sides of the mycelium or from the lateral or terminal filaments. The mycelium and conidia stain well with the aniline dyes and by Gram's method. Most detail is shown by Wright's stain. The relationship of the mycelium and the conidia may be very well demonstrated by making a gelatin stab culture and at the end of approximately a week (when the lateral growth is evident) the gelatin is hardened with formalin and sectioned after the method used by one of us.[21]

The pathology of the lesions of sporotrichosis is principally that of a chronic irritation of the subcutaneous tissue and lymphatics. The epithelium overlying the small nodular abscesses is unchanged. The tissues most remote from the abscess wall under the influence of the irritant are stimulated to a marked over-production, chiefly of the connective tissues. The elastic tissues are greatly increased. Adjacent to the purulent center the connective tissues are necrotic, infiltrated with masses of plasma cells and leucocytes. Giant cells are a constant feature, though not numerous. Mycelial filaments are rarely seen, but the

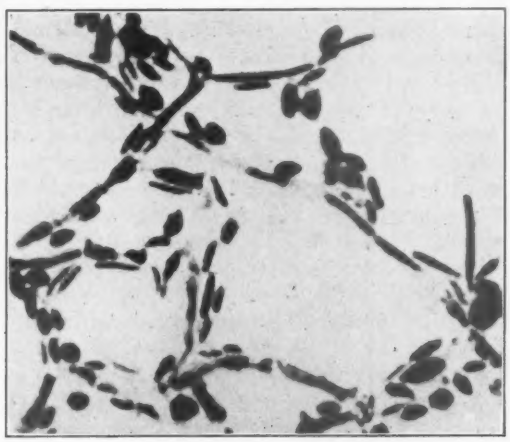

Fig. 3.—Sporotrichum schenckii. From agar growth. Stained slide preparation. X950.

spindle-shaped organisms are abundant, either free or within the leucocytes.

The treatment of sporotrichosis consists of

the administration of iodine, internally and externally. The use of potassium or sodium iodide internally, and tincture of iodine externally is specific. In some cases the treatment is less responsive than in others. Burgess[22] reported a case in which six months treatment with large doses of potassium iodide was necessary before complete recovery resulted.

Report of Case

The patient was first seen at St. Vincent's Clinic, Norfolk, Va., October 29, 1930. Colored female, age 22 years, married, housewife.

Family History: Father died from cerebral hemorrhage. Mother alive and well. Three brothers and two sisters alive and well. No history of chronic or malignant diseases.

Marital History: Married about four years. One child born one year after marriage. This child died as the result of an accident at the age of seven months. Husband living and in good health.

Personal History: Has always enjoyed good health.

Present Illness: The onset was thought to be a mosquito bite on the left wrist, about two months ago. A small nodule followed, which later ulcerated. In one or two weeks, the patient noticed some nodules on the forearm, and these, in turn, were followed by nodules on the upper arm. These likewise softened and gradually formed discharging ulcers. There was no marked pain or systemic symptoms. The patient had applied powdered sulphur and various antiseptics to the lesions.

Physical Examination: The left arm was involved with ulcerations and nodules as is shown in the photograph; otherwise the examination was essentially negative. The blood Wassermann was 4 plus. S. schenckii was isolated from one of the abscesses.

The patient was given ten grains of potassium iodide three times daily; this was increased to twenty grains three times daily. By December 15, 1930, the patient was well. Scars were present at the sites of the ulcers.

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REPORT OF EIGHT CONSECUTIVE CASES OF RUPTURED GASTRO-DUODENAL ULCERS.*

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Recently several articles have appeared, reporting the results obtained in ruptured gastro-duodenal ulcers. Bager, of Stockholm, has collected a total of seventeen hundred and sixty-seven cases from fifty Swedish hospitals over a period of fourteen years (1911-1925), which had been operated upon by one hundred different surgeons. About 60 per cent of these ulcers were in the duodenum and 25 per cent of the patients were women. There was a mortality of 33 per cent. Williams and Walsh, of Liverpool, have collected one hundred and fifty-eight cases, six of which were women. About 75 per cent of these ulcers were duodenal, and there was a mortality of 29 per cent. Farr, of New York, reported one hundred and thirty-nine cases, only six being in women. Eighty of these ulcers were duodenal and a mortality of 20 per cent was reported.

All of these writers believe that the best results were obtained by a simple closure of the perforation, but the question of draining the peritoneal cavity was debated.

Within the past two years there have been eight cases of ruptured gastro-duodenal ulcer admitted to St. Elizabeth's Hospital, with only one death, a mortality of 12½ per cent. All of the patients were men, with their ages vary-

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ing from thirty to sixty-two years, and the duration of the rupture, as judged from the history, from two to eighteen hours. There was but one gastric ulcer in the series. Four of these patients were operated upon by Dr. J. Shelton Horsley, three by Dr. John S. Horsley, Jr., and one by Dr. A. I. Dodson, practically the same operative technic and post-operative treatment being used in all cases.

Case No. 1.—Mr. N. T. H., age 30 years. Patient was admitted to the hospital complaining of severe pain over the entire abdomen for the past two hours, accompanied by nausea and vomiting. He gave a history of peptic ulcer symptoms over a period of a year, and had gone untreated. On physical examination, the abdomen was found to be extremely rigid with tenderness throughout. The patient was operated upon, under ethylene-ether anesthesia, by Dr. A. I. Dodson. There was found in the peritoneal cavity a small amount of murky fluid which was removed with the suction apparatus. A round perforation, ½ cm. in diameter, was found in the duodenum. The ulcer crater was cauterized with the electric cautery, and then the defect was closed with three layers of 00 tanned catgut. The last row was of interrupted sutures and the long ends of these were passed through some loose peritoneal covered fat. in this way sealing the suture line. The peritoneal cavity was drained with cigarette and rubber drains through two stab wounds.

The patient made an uneventful recovery, there being only a slight infection of the abdominal wound which was completely healed before the patient was discharged from the hospital. Patient's temperature and pulse became normal on the tenth post-operative day and remained so. He was discharged from the hospital twenty-three days after operation and has had no further trouble.

Case No. 2.—Mr. G. T. J., age 60 years. Patient was admitted complaining of sudden, severe abdominal pains over his entire abdomen, which had been present for seven hours previous to admission. He gave a history of digestive disturbances for the past ten months with one attack of hematemesis nine months before. The present pain originated in his epigastrium. On examination it was evident that the patient was critically ill. His abdomen was slightly distended; there was board-like rigidity of all of the abdominal muscles; moist rales were heard in both lungs, and his heart was definitely enlarged. The blood pressure was 160/100. His fingers, toes and lips appeared cyanotic. W. B. C. 6,800, with 85 per cent polys. Blood urea 65 mg. per 100 c.c.

The patient was operated upon, under local and ethylene anesthesia, by Dr. John S. Horsley, Jr. Dudoneal and gastric contents were found throughout the entire peritoneal cavity, and a perforation of 1 cm. in diameter was found in the first portion of the duodenum on its upper posterior wall. The ulcer crater was cauterized with the electric cautery, after the free fluid had been withdrawn from the peritoneal cavity. The perforation was then closed as in the previous case and the peritoneal cavity drained through two stab wounds.

The patient seemed to be doing fairly satisfactorily for the first forty-eight hours, and then began to show definite signs of circulatory failure with increasing toxicity. The blood urea remained high, the white blood cells low, and the patient became irrational. On the fifth post-operative day his temperature and pulse began to rise steadily and he died on the following day. Necropsy showed a mild generalized peritonitis but no abscesses or undrained areas. A definite broncho pneumonia was found.

Case No. 3.—Mr. G. C. B., age 38 years. Patient gave a history of intermittent attacks of indigestion and cramp-like pains in the right side of his abdomen over a period of a year. These pains were not associated with meals. Eight hours previous to admission he had a sudden attack of right sided abdominal pain. There was no nausea nor vomiting. Examination showed generalized abdominal rigidity and tenderness which was more pronounced on the right side. W. B. C. 14,000, 93 per cent polys. Blood urea 52 mg. per 100 c.c. A diagnosis of either a ruptured appendix or peptic ulcer was made.

The patient was operated upon by Dr. John S. Horsley, Jr., under ethylene-ether anesthesia. A McBurney incision was made, the appendix was found to be slightly inflamed and was removed. However, a large quantity of pus was present in the pelvis so a right rectus incision was made. The pyloric end of the stomach was adherent to the under sur-

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face of the right lobe of the liver and a perforation was found about ½ cm. in diameter on the anterior wall of the pylorus, 4 cm. from the pyloric sphincter. The free fluid in the peritoneal cavity was removed with the suction apparatus, the cavity flushed with normal saline solution, and this also withdrawn. The ulcer crater was first destroyed with the electric cautery and then the perforation closed as in the previous cases. The peritoneum was drained with cigarette and rubber tube drains through a stab wound and the McBurney incision.

He made an uneventful recovery and was discharged on the thirtieth post-operative day. The patient's temperature never exceeded 99.6 and his pulse remained below 92. There has been no further trouble and he has gained about twenty pounds.

Case No. 4.—Mr. F. D. L., age 40 years. Patient was admitted complaining of acute epigastric pain which began eighteen hours previously, without nausea or vomiting. He gave a history of previous peptic ulcer symptoms for the past two years. On examination the patient's abdomen was very rigid, with muscle spasm and tenderness more marked in the upper abdomen. Physical examination was otherwise negative. W. B. C. 16,200, with 89 per cent polys.

The patient was operated upon by Dr. J. Shelton Horsley, under ethylene anesthesia. A ruptured duodenal ulcer was found, with free cloudy peritoneal fluid present. The perforation was closed as in the previous cases, but here the ulcer crater was not cauterized, and the peritoneal cavity was drained. There was a mild bronchitis for a few days following the operation and a moderate amount of infection of the abdominal wound; otherwise the post-operative course was uneventful and the patient was discharged thirty-five days following the operation.

Ten days after discharge from the hospital, the patient developed lobar pneumonia, which was followed by an empyema. Following drainage of the pleural cavity, he developed a bronchial fistula but after several weeks entirely recovered and is now in excellent health.

Case No. 5.—Mr. W. K., age 30 years. Patient gave a history of sudden onset of pain six hours before admission and a vague history of hunger pains and digestive disturbances previous to the present illness. The pain was first in the epigastrium, but gradually settled in the lower abdomen. On examination there was marked rigidity and tenderness through the entire abdomen, being more marked on the right side; otherwise negative. A diagnosis of ruptured appendix or perforated peptic ulcer was made. He was operated upon by Dr. John S. Horsley, Jr., under ethylene-avertin anesthesia. Through a McBurney incision, the appendix was found to be only slightly congested but a large quantity of cloudy yellowish fluid containing small particles of food was found. The appendix was removed. An upper right rectus incision was made, and a perforated ulcer on the anterior surface of the first part of the duodenum was found. The perforation was 1 cm. in diameter and the indurated area about 2 cm. The ulcer crater was destroyed with the electric cautery and this opening into the duodenum extended parallel to its long axis for about 3 cm., carrying it past the pyloric sphincter. The wound in the duodenum and stomach was then closed with interrupted 00 tanned catgut in a manner similar to that used for the Horsley pyloroplasty. The long ends of the last row of sutures were passed through adjacent peritoneal covered fat, covering the suture line. All of the free fluid was removed with the suction apparatus and the peritoneal cavity was drained through a stab wound and the McBurney incision with cigarette drains and rubber tubes.

There was a moderate amount of purulent discharge through the drains and the midline incision became infected. However, this was not severe and otherwise the patient made an uneventful recovery. The temperature and pulse became normal after the eleventh day, the temperature never being higher than 100° F. He was discharged on the twenty-second post-operative day, and has had no further trouble.

Case No. 6.—Col. W. T. G., age 58 years. Twelve hours previous to admission the patient had a sudden, severe attack of epigastric pain which persisted and was not relieved by morphine. At no time was there nausea or vomiting. He gave a history of indigestion and ulcer symptoms for twenty years and has been treated for a peptic ulcer at intervals since then by various doctors, having refused an operation. Examination showed the abdo-

men rigid, with extreme tenderness, especially in the epigastrium. The physical examination was otherwise negative. The hemoglobin was 70 per cent, W. B. C. 10,000 with 90 per cent polys.

At operation, under ethylene-ether anesthesia, the peritoneal cavity was found to contain a large quantity of free murky fluid. On the anterior wall of the duodenum a perforated ulcer was found, the hole being 1 cm. from the pylorus. The perforation was closed as in the first two cases, but without using the electric cautery. A large amount of free fluid was found in the pelvis, so a stab wound was made just to the right of the midline in the lower abdomen and a large drainage tube inserted. The pelvis was washed out with saline solution and the free fluid withdrawn with the suction apparatus.

The patient made a fair recovery immediately following the operation, but at the end of a week did not continue to improve. A transfusion of 480 c.c. of blood was given by the syringe method and from then he had a normal convalescence. There was only a slight infection of the incision, which soon healed without much trouble. The patient left the hospital forty-two days after operation and has continued well.

Case No. 7.—Mr. T. P. D., age sixty-two years. For two months the patient had rather atypical symptoms of ulcer. X-ray pictures taken elsewhere two weeks previous to admission did not show the presence of an ulcer and a gastric analysis gave a low acidity. Two hours previous to admission, while going to lunch, the patient had a sudden, sharp, cramp-like epigastric pain, without nausea or vomiting. The pain soon spread over the entire upper abdomen. Physical examination showed the abdomen board-like and extremely tender. W. B. C. 11,200 with 90 per cent polys., hemoglobin 70 per cent.

The patient was operated upon by Dr. J. Shelton Horsley, under ethylene-ether anesthesia. There was found in the peritoneal cavity a small amount of free fluid which appeared to be pocketed about the duodenum. A perforated ulcer was demonstrated on the anterior upper wall of the duodenum one-half inch from the pylorus. The perforation was closed as in the previous case. There was no drainage of the peritoneal cavity. The patient had a long but fairly satisfactory convalescence. A severe infection of the abdominal wall developed which finally healed and the patient left the hospital on the fifty-fourth post-operative day.

Case No. 8.—Mr. B. S. P., age 42 years, was admitted to the hospital complaining of acute agonizing abdominal pain for about three hours which came on suddenly and continued to increase. He had had digestive disturbances for the past eight years, with nausea and vomiting, and typical ulcer pains for the past year which were relieved by milk. There had been no passage of blood nor blood vomiting. The acidity was high. Examination showed the abdomen rigid throughout and extremely tender, more marked in the epigastrium, and the patient appeared to be in intense pain in spite of having received 2/3 gr. of pantopon. The blood pressure was 164/100. Physical examination was otherwise negative. W. B. C. 16,200, polys. 90 per cent.

He was operated upon under ethylene anesthesia, by Dr. J. Shelton Horsley, about three hours after the first symptoms of rupture occurred. Free turbid fluid was found in the peritoneum; this was removed with suction and flushed with saline. A small perforation about ½ cm. in diameter and somewhat oblong was found in the anterior wall of the duodenum just beyond the sphincter. The perforation was closed with three rows of 00 tanned catgut sutures, the first being applied as a mattress suture, the second as a continuous, and the third as interrupted mattress sutures; the ends of this last were left long, threaded in a needle and passed through adjacent peritoneal covered fat and tied, so bringing this over the sutured ulcer as in the previous cases. Due to the marked induration about the duodenum, occlusion was evident, so a posterior gastro-enterostomy was also done. The peritoneal cavity was not drained.

The patient made an uneventful recovery; there was some redness about the incision for the first seventy-two hours, which disappeared under hot wet dressings. He had normal temperature and pulse after the third post-operative day and left the hospital on the twenty-sixth day feeling well and has remained so.

In all cases approximately the following post-operative care was followed: Nothing is given by mouth for the first twenty-four hours and then only small quantities of water. Five

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per cent dextrose in Ringer's solution is given intravenously continuously for twenty-four to forty-eight hours and then about 2,000 c.c. every day until the patient is able to take small amounts of food, such as gruels, malted milk, etc. The patient is placed in Fowler's position for several days and a gastric lavage is done only if indicated by vomiting. The patients usually leave the hospital on some bland diet, and an alkaline powder is given if indicated by the gastric analysis which is done before the patient leaves the hospital.

It is interesting to note that those patients with a high gastric acidity had very little, if any, infection of the abdominal wound, while one with a low acidity had a severe infection. The best results seemed to be obtained in those cases in which the perforation was immediately sutured, without the preliminary cauterization of the ulcer crater. The method of draining through stab wounds seems to give excellent results, and in this way the incisions can be completely closed. There have been no cases of post-operative hernia. As a rule, those cases that have been perforated from four to six hours are not drained.

SERUM DIAGNOSIS OF SYPHILIS.*

By MARY E. ROCHE, M. D., Norfolk, Va.

Wassermann, Neisser and Bruck, in 1906, published their results on the serologic diagnosis of syphilis by the complement fixation test, utilizing the phenomenon of Bordet and Gengou. At first the reaction was thought to be a true antigen-antibody reaction. It is well recognized, however, that the body in a syphilitic serum which reacts with the antigen is not an amboceptor, but a lipoidophilic substance which has the property of linking complement. The name "Reagin" has been proposed for this lipoidal substance. The complement fixation tests most commonly used to detect the syphilitic reagin is the Wassermann and its modifications, an anti-sheep hemolytic system, or Noguchi, with its anti-human system being used.

The Wassermann test has been for years an almost indispensable aid in the serum diagnosis of syphilis, and has been used in hospital and health department laboratories throughout the country. Within the last ten years more and more attention has been given to the precipitation reactions.

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The importance of a precipitation test for syphilis is generally recognized. Such a test requires but one basic reagent beside the serum; is comparatively simple in its performance, and is free from many sources of error inherent in a complement fixation test. The phenomenon of precipitation with syphilitic sera was observed soon after that of complement fixation, and many attempts have been made to apply this phenomenon in the development of a precipitation test for syphilis. Porges and Meyer in 1908, Michaelis and Meinke in 1917, Sachs and Georgi in 1918—and among the more recent are Kahn, Hinton, Kline, Johns, and Bass. Kahn in 1921 began to study the precipitation reaction with syphilitic sera, and found the following governing principle essential for the best results:

(1). Concentration of the ingredients which enter into the test.

(2). High instability of the antigen dilution.

(3). Correct quantitative relation between serum and antigen.

(4). Hastening the union between serum and antigen by agitation.

By applying these principles and paying particular attention to the standardization of the antigen and technique, Kahn has developed a test which aside from its apparent specificity and uniformity of results, possesses the practical advantage of being completed within a few minutes of mixing the ingredients. The Kahn test comprises five procedures:

(1). The routine test—qualitative.
(2). The quantitative procedure.
(3). The presumptive test.
(4). The qualitative test for spinal fluid.
(5). The quantitative test for spinal fluid.

Three reagents are employed; the antigen, serum, and physiological salt solution. The technique is very simple, but calls for exactness in every detail,—chemically clean and dry glassware, and accurately standardized antigen and physiological salt solution. I will not go into details of the test except to say that it is the Kahn Standard Precipitation Test with three tubes of serum-antigen-dilution,—varying amounts of antigen in each tube, and inactivated undiluted serum, and shaken in a mechanical shaker for three minutes, and 1 c.c. of normal saline added to the first row of tubes to make them read more easily: after five minutes the results are read. With

the proper technique and experience the results are as a rule easily read. If only one test is used, the standard Kahn three tube test is the one of choice. The only disadvantage of the Kahn is the difficulty some workers have in reading the precipitates, which closely resemble the macroscopic bacterial agglutination tests. This disadvantage is overcome by the addition of a control hemolytic system in the Kahn tube, and the results read in the same manner as the Wassermann test. After Kahn's are read, complement 1/10 c.c. is added to the second or third tube, as these contain the smallest amount of serum-antigen mixture. Incubation can be done by the overnight icebox method, but just as accurate results are obtained by thirty minutes in a water bath at 38° centigrade; then the ambocepter and corpuscle emulsion are added and incubated one-half hour, or until hemolysis is complete in the control tubes. They can be read at once by centrifuging the tubes in which there is no or incomplete hemolysis, or by putting in the icebox overnight for the cells to settle, and reading the next morning. This makes a perfect control, and is comparatively simple.

We have used this type of control with our Kahn's and found it very satisfactory. The complement fixation test was always positive in cases which gave a positive Kahn.

We have been running Kahn tests parallel with our Wassermanns since January 1, 1927—10,882 tests in all. The types of syphilis considered were congenital, primary, secondary and tertiary. In congenital, primary and secondary syphilis, Kahn and Wassermann agreed. In tertiary cases in which Kahn was 4 plus, 7 per cent showed a weakly positive and 19 per cent a negative Wassermann. The tests reported here were taken on the first visit to the clinic, before treatment was begun. During treatment it was not unusual for the Kahn to remain positive, while the Wassermann was weakly positive, or negative.

Conclusions

While the Kahn does not detect all cases of syphilis, it certainly approaches the maximum of any serum test so far devised. It has become an accepted procedure for the serum diagnosis of syphilis in the United States Navy and the Michigan Department of Health. The superiority of the Kahn over the Wassermann test is shown by an analysis of the results obtained at a competitive serological conference of the League of Nations Health Committee held at Copenhagen in 1928. Seven Wassermann methods and seven precipitation tests, including the Kahn, were put to a practical trial in the examination of approximately 1,000 serums, half of which were from syphilitic patients. The Kahn test was one of a group of four methods that did not give a positive reaction in non-syphilitic cases, and it was more sensitive than the other three to the extent of 20—45—and 55 per cent. The Kahn was not only free from false positive results, but remarkable for its sensitiveness.

Note:—The material for this paper was taken from the records of the laboratory work at St. Vincent's Hospital, and includes the hospital patients and the outpatients clinic department.

613 *Medical Arts Building.*

AGRANULOCYTOSIS—REPORT OF CASE WITH THREE RELAPSES.

By CARL GOLDENBERG, M. D., Washington, D. C.

W. W., 59 years old, a painter, consulted me at my office on December 2, 1929. He complained of severe pains in his throat, which had started a few days previously. He suffered from considerable dysphagia and felt very exhausted. There was an annoying bitter taste in his mouth; several times he had vomited and his sleep had become very poor. When he attempted to rest in bed he felt choked. During the last 2 days he had several chills and occasional abdominal pains.

Family History: Father died of apoplexy, mother of angina pectoris. One brother is living. Patient is married, but has no children.

Past History: Childhood: Chicken-pox, scarlet fever, typhoid fever. Adolescence: Two years ago furunculosis of several months duration. 1929: Lumbago. Potus and venereal diseases denied.

First Examination: Height—64 inches. Weight—137. Temperature—98. Pulse—130. Respiration—18. R. ear—otitis chronica media, acquired during war. Both tonsils are quite large, dark red, covered with a thick mucous discharge. The entire laryngo-pharynx is of the same dark red color and considerably swollen. Muco-purulent discharge from the nose; a sinusitis ethmoidalis is found on examination by Dr. Davis.

Circulatory System: Heart not enlarged, precordial systolic murmur present. Blood pressure—140/90 m.m. Hg.

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Pulmones: Free from pathological changes.

Abdomen: Some meteorism present.

Nervous System: No abnormal reflexes. Sensibility intact.

Genito-Urinary System: Intact.

Patient was advised to go to bed, but went to work instead. The following afternoon W. felt completely exhausted and was put to bed.

Second Examination: December 4—Shooting pains in the right ear, increased dysphagia and considerable pain in his throat. Temperature—100.4. Pulse—132. Patient was subicteric and appeared quite toxic. The previous findings in his naso-pharynx and tonsils seemed to be intensified.

A blood count was made with the following results: Haemoglobin—78 per cent; erythrocytes—5,300,000; leucocytes—400, with 100 per cent lymphocytes. A second leucocyte count later in the afternoon revealed 900 white cells, with 100 per cent lymphocytes.

A *diagnosis* of agranulocytosis with angina was made, and the patient transferred to Emergency Hospital.

Therapy recommended: X-ray stimulation, cardio-vascular stimulantia.

Course: December 6th—Left tonsil, uvula, and pharynx are covered with thick mucous discharge; the dark red color is interrupted by streaks of a yellow pseudo-membrane. Cervical lymph glands on the left side are swollen. Patient is in apparent stupor. Icterus quite noticeable. Foetor ex ore. Temperature—100. Pulse—132. Urinalysis: Positive for albumen, hyaline cylinders and a few leucocytes. (For blood picture for this and following days see Table.)

December 7th.—Same status. Temperature—103. Pulse—130, and weak. The pseudo-membrane changed its color into gray-white, especially over left tonsil.

December 10th—Left tonsil fully necrotic.

December 13th.—Necrotic tissue removed. The tonsillar grove bright red; no hemorrhage noted. Temperature dropped to 97.8. Pulse—108. Patient looks brighter, has lost his bitter taste in the mouth and takes food.

December 15th.—Cellulitis left arm, following repeated subcutaneous injections of digifoline and coramine. Subicterus has disappeared.

December 19th.—Abscess of arm opened, discharging a thick, creamy pus. Temperature—98.4. Pulse—90. Tonsillar ulcus covered with good granulations. Dysphagia has disappeared.

December 27th.—Patient makes noticeable improvement.

January 4, 1930.—Patient out of bed. A renewed fall of the leucocytes to 2,900 necessitates resumption of X-ray therapy.

January 10th.—Further improvement noted. Patient has an almost ravenous appetite. Pulse and temperature normal. Naso-pharynx and abscess on arm completely healed.

January 23d.—Patient discharged from hospital. Weight 148.5 lbs. Blood picture on discharge: Leucocytes — 4,300 differential; lympho.—30 per cent; monos.—5 per cent; polys.—65 per cent; myelocytes—5; juvenile forms—8.

Additional laboratory tests performed during this acute period:

Culture from throat December 14th—Streptococcus haemolyticus; micrococcus catarrh; staphylococcus aureus.

Blood culture taken December 8th—Sterile after six days.

Urinalysis December 28th—Albumen negative; occasional leucocyte; mucous threads; occasional epithelial cell.

Wassermann reaction December 6th—negative.

Kahn Test December 6th—Negative.

Interval: After discharge of the patient he remained at home. Clinically, he offered no complaints nor any visible signs of gross pathology. His strength and vigor were surprising, his appetite was very good, and his weight showed a further increase. His libido, previously dormant, returned. Gradually, the patient was allowed to take short walks. Temperature averaged 98—98.6 on bi-weekly examinations. Pulse, regular, around 80. Blood pressure: 140/90. His throat had healed, taste had returned and there was no difficulty of swallowing solid food. However, his blood picture remained conspicuously leucopenic (cf. chart).

On March 13th, the patient complained of severe shooting pains in his left arm. He attributed them to an accident he had two days before when he was struck by a bicycle. An examination did not show any injury to the bone or soft tissues of the arm. There was marked tenderness on percussion of radius. The pains increased in the following week and did not subside in spite of analgesics. Pa-

tient became very restless and irritable, and within a few days only had lost most of his vigor. On March 27th the blood picture showed such marked agranulocytosis that he had to be readmitted to the hospital.

Relapse: Examination of the throat revealed a marked reddening of the mucous membrane and dysphagia embarrassed the patient again. Temperature—100-102. with correspondingly rapid pulse and considerable toxic appearance. On April 5th a yellow pseudomembrane was noticed covering the left side of the soft palate and extending downward towards the pharynx. Abdomen: meteorism, profuse diarrheas, tenesmus. External haemorrhoids became quite large and painful. Some of them were bleeding slightly. After three days, meteorism and diarrhea stopped. Temperature and pulse returned to normal. Less toxic appearance. Tongue was very much coated. There was no sign of necrosis in throat or pharynx. Dysphagia disappeared. Further improvement was noted from April 8th until April 24th. The blood picture, however, remained extremely leucopenic; its response to X-ray remained feeble. Efforts to stimulate it by means of nonspecific protein injections (activin) seemed to bring no change. In striking contrast to this poor blood reaction, the patient's clinical appearance was really surprising.

On April 24th, there was relapse and rapid decline. The patient suffered great pains in ano; his haemorrhoids were large and protruding, one of them showed beginning ulceration. Patient became rapidly toxic and stuporous. The abdomen was quite distended, and many watery, frothy stools were ejected, some having streaks of blood. Temperature curve became septic in character, pulse weak and rapid. Tenesmus and diarrheas remained unchecked. The anal ulcer grew in size and, covering a considerable para-anal area, became necrotic.

On May 3d, muscular defense appeared over left lower abdomen, the patient had facies Hippocratica. There was circulatory failure and pulmonary edema.

May 5th: Exitus lethalis. Autopsy could not be obtained.

Therapy: Encouraged by reports of cures (Friedeman), X-ray radiation was done by Dr. McPeak. A daily exposure of small areas of the long bones was done (20 per cent E. D.). Starting with one area of the left anterior femur, the patient was given on each succeeding day an equal dosage to the right anterior femur, to the right anterior humerus, to the left anterior humerus and to the sternum, to the right lower leg, to the left lower leg and to the right forearm.

The white cell count having reached 3,000 and the patient's condition greatly improved, we (Dr. McPeak and the author) decided to discontinue treatment and watch the further progress. While this series of X-ray radiations was being given no other stimulating agent to the bone marrow was used. Cardiac stimulants were necessary during the first few days and a mouth wash was employed. It was indeed gratifying to notice the response of the granulopoetic system to the stimulation. The accompanying chart illustrates the change; however, the appearance of endotheliocytes in the picture showed the severity of the case quite clearly. After December 13th, the patient was watched and the white cells increased steadily until the 4th of January, 1930, when we noticed a fall in their numbers, which necessitated a resumption of X-ray applications for three days (right forearm, left upper leg, right upper leg). When the patient was discharged, it was felt that he had a good chance for recovery. However, the application of X-ray proved to be a transitory reaction; subsequent stimulation during the following relapses brought only weak responses from the granulopoetic system. In spite of the therapeutic failure, I have gained the impression that X-ray stimulation may become a helpful weapon in fighting against this apparent hopeless condition. During the second relapse I tried to support the X-ray therapy by intramuscular injections of a foreign proteid (Yatre-casein). It did not produce the desired result. Perusing the current literature one gains the impression that all therapeutic efforts have been largely empirical. The response to treatment depends upon many factors, the greater part of which seems still unknown. The pathogenesis of the disease is still clouded.

The Blood Picture: Although a blood picture was not made until the third day of observation, it is safe to assume the presence of agranulocytosis from the onset of clinical symptoms. In spite of the negative blood culture the clinical picture resembled a massive infec-

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tion, a true sepsis. But it will be noted throughout the entire course of the disease that at no time did any severe secondary anemia appear. Likewise, there never was a haemorrhagic diathesis. The blood platelets, although not counted, were present in large amounts. In this respect the condition differed widely from the average septicaemia. It is far more likely that the granulopoetic system had been weakened by previous infections.

Right from the onset the blood picture showed the presence of endotheliocytes in ever increasing amount. The monocytes, too, reach amounts, specially during the first and second relapses, far beyond their normal count (4-8 per cent). Thus, it seemed as if the body was rapidly emptying its reservoirs of active phagocytic soldiers; the presence of endotheliocytes and increasing numbers of monocytes were the sign of a general levee en masse. This

HAEMOGRAMS
1ST ATTACK

1929	Haemogl.	Reds	Whites	Lymph.	Endo.	Mono.	Neutro.	Eos.	Pathologic
12/5	78%(D)	5300M	900	100%	.....	.....	.....	.....	.....
12/7	70%	3920M	360	99%	.....	.....	1%	.....	.....
12/8	68%	3700M	555	100%	.....	.....	.....	.....	.....
12/9	68%	3810M	430	98%	.....	.....	2%	.....	.....
12/10	69%	3850M	370	91%	2%	.....	7%	.....	.....
12/11	70%	3950M	1240	68%	3%	1%	28%	.....	.....
12/12	not counted		2300	48%	3%	2%	47%	.....	1 myelocyte
12/13	not counted		3000	21%	3%	7%	69%	.....	1 myelocyte
12/14	68%	3880M	4700	13%	1%	1%	85%	.....	7 myelocytes
12/15	70%	4010M	6500	18%	.....	1%	81%	.....	3 myelocytes
12/16	71%	4120M	6400	16%	.....	2%	82%	.....	6 myelocytes
12/17	72%	4090M	6600	10%	5%	3%	82%	.....	6 myelocytes
12/18	72%	4150M	6400	16%	1%	2%	81%	.....	2 myelocytes
12/19	71%	4010M	5900	20%	.....	5%	75%	.....	1 myelocyte
12/20	71%	4080M	6400	14%	2%	2%	82%	.....	.....
12/21	71%	3920M	5400	17%	3%	3%	77%	.....	1 mast cell
12/23	71%	4060M	4700	15%	3%	1%	81%	.....	.....
12/24	70%	4020M	5200	19%	1%	1%	79%	.....	.....
12/26	71%	4110M	5300	16%	2%	3%	79%	.....	.....
12/28	70%	4050M	5800	20%	2%	1%	77%	.....	.....
12/30	not counted		4400	25%	2%	3%	68%	2%	.....
12/31	71%	4100M	5500	27%	1%	1%	71%	.....	.....
1930									
1/2	72%	4040M	5700	35%	2%	2%	60%	1%	.....
1/4	73%	4200M	4300	40%	3%	2%	55%	.....	.....
1/6	73%	4130M	3000	28%	3%	8%	60%	1%	.....
1/7	not counted		4100	31%	3%	1%	64%	1%	.....
1/8	not counted		3200	37%	0	4%	59%	.....	.....
1/9	not counted		2900	25%	1%	3%	71%	.....	.....
1/10	not counted		3300	26%	0	3%	71%	.....	.....
1/11	not counted		3500	26%	1%	10%	62%	1%	1 myelocyte
1/13	not counted		3500	31%	1%	3%	65%	.....	2 myelocytes
1/15	not counted		3800	26%	1%	2%	71%	.....	5 myelocytes
1/17	not counted		4100	18%	0	4%	78%	.....	2 myelocytes
1/18	not counted		3900	19%	4%	2%	75%	.....	.....
1/20	not counted		4300	21%	4%	2%	73%	.....	.....
1/21	76%	4220M	3400	17%	2%	6%	75%	.....	4 myelocytes
1/22	not counted		4300	30%	.....	5%	65%	.....	5 myelocytes
1/23	Patient discharged.								

Interval at home—leucopenia

1/29	not counted		3400	42%	4%	.....	54%	.....	.....
2/5	77%	4080M	2900	36%	3%	2%	58%	1%	.....
2/14	not counted		3400	25%	3%	4%	68%	.....	.....
2/20	not counted		3400	29%	3%	7%	61%	.....	.....
2/27	not counted		4200	41%	2%	.....	56%	1%	.....
3/6	79%	4160M	4000	37%	3%	2%	57%	1%	.....
3/13	not counted		3300	32%	4%	3%	59%	1%	mast cell 1%
3/18	79%	4180M	3300	33%	2%	.....	64%	1%	.....

extramedullar effort showed the complete breakdown of granulopoesis, and remained the grave indicator of the hopeless situation.

This case of agranulocytosis lasted for 5 months and showed a periodicity of events strikingly similar to those described by Roberts and Kracke.

Bacteriology: In spite of repeated efforts, no blood culture could be obtained, while the smear from the tonsils revealed the presence of various species of bacteria. It cannot be said whether these germs play a causative role in the case or are mere parasites without pathological effect.

Clinic: A few days after the onset, the laryngo-pharyngitis turned into a necrobiotic form, preceded by a pseudomembranous state. Quite in contrast to the trivial swelling and inflammation of the mucous membrane there appeared as an early symptom a considerable

2D ATTACK AT HOSPITAL

1930	Haemogl.	Reds	Whites	Lymph.	Endo.	Mono.	Neutro.	Eos.	Pathologic
3/27	not co	unted	1200	73%	3%	8%	16%	.....	.....
3/29	not co	unted	620	65%	2%	33%	.....	.....	.....
3/30	not co	unted	440	84%	2%	14%	.....	.....	.....
3/31	not co	unted	620	81%	6%	13%	.....	.....	1 myelocyte
4/1	not co	unted	430	79%	3%	18%	.....	.....	.....
4/2	not co	unted	430	78%	4%	18%	.....	.....	.....
4/3	not co	unted	330	81%	1%	18%	.....	.....	.....
4/4	80%	4220M	320	74%	4%	22%	.....	.....	.....
4/5	not co	unted	420	75%	2%	15%	8%	.....	.....
4/6	not co	unted	780	50%	2%	8%	40%	.....	6 myelocytes
4/7	not co	unted	1100	33%	1%	11%	55%	.....	3 myelocytes
4/8	not co	unted	1500	37%	.....	8%	55%	.....	1 myelocyte
4/9	not co	unted	1700	25%	.....	15%	60%	.....	2 myelocytes
4/10	not co	unted	2400	17%	1%	10%	72%	.....	3 myelocytes
4/11	not co	unted	3200	25%	1%	10%	64%	.....	2 myelocytes

Period of clinical improvement—persistent leucopenia

4/12	not co	unted	2900	30%	1%	9%	60%	.....	.....
4/15	not co	unted	2700	34%	1%	6%	59%	.....	.....
4/16	not co	unted	3100	40%	.....	4%	56%	.....	.....
4/17	not co	unted	3100	35%	3%	9%	53%	.....	2 myelocytes
4/18	not co	unted	2500	37%	2%	5%	56%	.....	1 myelocyte
4/19	not co	unted	2400	22%	2%	3%	73%	.....	.....
4/20	not co	unted	2600	42%	2%	5%	51%	.....	.....
4/21	not co	unted	3000	30%	2%	4%	64%	.....	.....
4/22	not co	unted	2100	28%	3%	5%	64%	.....	1 myelocyte
4/23	not co	unted	2200	37%	2%	9%	62%	.....	.....
4/24	not co	unted	1500	67%	8%	14%	11%	.....	.....

3D ATTACK—PROMINENCE OF ABDOMINAL SYMPTOMS

1930	Haemogl.	Reds	Whites	Lymph.	Endo.	Mono.	Neutro.	Eos.	Pathologic
4/25	not co	unted	1700	78%	6%	13%	3%	.....	.....
4/26	not co	unted	1300	90%	3%	7%	.....	.....	.....
4/27	not co	unted	1300	84%	3%	13%	.....	.....	.....
4/28	not co	unted	1200	86%	6%	8%	.....	.....	.....
4/29	not co	unted	800	88%	5%	7%	.....	.....	.....
4/30	not co	unted	1200	86%	4%	10%	.....	.....	.....
5/1	not co	unted	1700	86%	4%	10%	.....	.....	.....
5/2	not co	unted	600	83%	4%	13%	.....	.....	.....
5/3	not co	unted	700	80%	7%	13%	.....	.....	.....
5/4	not co	unted	300	88%	.....	12%	.....	.....	.....
5/5	not co	unted	260	91%	.....	9%	.....	.....	.....
	Exitus.								

dysphagia and a complete loss of taste. Within a few days the patient became rapidly toxic in appearance, and his circulation precarious. However, soon after the first reappearance of granulocytes this toxicity disappeared,—in spite of the progressive necrobiosis of the tonsil. The same phenomenon was noted during the first relapse, and seemed to occur during the initial stage of the second relapse. The clinical symptoms towards the end pointed to an involvement of the peritoneum, probably an ulcus penetrans, in as much as there were signs of rigidity in the left lower quadrant and pains over the same area. Unfortunately, an autopsy could not be obtained to clear up the diagnosis.

Conclusion: Agranulocytosis seems to be a symptom of a very severe, massive infection. The inhibition of granulopoesis or the destruction of the granulopoetic apparatus is apparently unaccompanied by a similiar action on the erythropoetic system and the platelets; hence absence of appreciable anaemia and purpura. In prolonged courses of the disease, large amounts of endotheliocytes and monocytes seem to appear, which may be interpreted as an extramedullar effort to meet the exigency. Necrobiosis is due to the absence of granulocytes. The therapeutic effect of X-rays, though undoubtedly present, seems to be just as great or as small as any other agent employed.

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Miscellaneous

The Duties of a Rural Public Health Nurse As Formulated in Virginia.

(The following are extracts from a paper published by Dr. B. B. Bagby, Director, State Bureau of Child Health, in *The Echo*, for the guidance of his nurses.)

The problems of a single nurse working in a county of from 10,000 to 40,000 are very different from those of the average urban public health nurse. How to do the greatest good to the greatest number in the shortest time, is the problem of the county nurse. The experience of the writer has convinced him that the way to solve this problem is first, to use every effort to promote and coordinate the various health activities of existing community organizations that are seeking for channels of usefulness. It will rarely be necessary to form additional organizations.

Experience proves that the best results are obtained through educating the educated and especially the educator. One of the first duties of the nurse then is to so enlist the interest of the teachers in teaching health that they will not only teach from the textbook but will correlate health with every subject taught in the school. Other activities of the nurse in the school program are: (1) To assist the superintendent, principal, and teacher in carrying out a well-rounded health program. (2) To visit the schools and when necessary help the teachers to make the physical inspection, and instruct them in the best means of controlling communicable diseases. (3) To make home visits when requested by the teacher, to induce parents to arrange for the correction of defects. (4) To coordinate the activities of the school authorities, the Home Demonstration Agent, the Parent-Teachers Association, and the Cooperative Education Leagues, or other organizations so as to provide hot lunches, milk or other aids to health for every child. (5) To work with the school officials, the neighborhood physicians, and the Leagues or Parent-Teachers Associations to put over a Beginners' Program. (6) To assist the school authorities and other agencies to celebrate an appropriate Child Health Day.

(Several succeeding paragraphs of Dr. Bagby's paper deal with subjects not directly interesting to physicians: Practical suggestions for active cooperation of the nurse with local organizations such as the Cooperative Education Association, Parent-Teachers Association, Home Economics and Agricultural instructors, churches, and Social Service workers.)

Group Instruction

When local organizations have been induced to take up some form of health work, the next most important duty of the nurse is to guide them in the best ways of doing this work. Mass teaching is perhaps the most effective means. Public Health nurses in Virginia are instructed to carry on at all times at least one

class in Home Hygiene and Care of the Sick. In these classes she places especial emphasis on nutrition, sanitation and disease prevention. She never neglects an opportunity to address a club or society.

Home Visits

When a communicable disease is reported by the physician, the nurse visits the home and teaches the occupants the reasons for observing the quarantine laws and for making the premises sanitary. She arranges with the physician to immunize against smallpox, diphtheria, or typhoid fever. She assists the physician in urging T. B. patients to secure sanatorium treatment, and teaches these patients how to protect others; she also helps to secure a physical examination for the contacts and teaches the general rules of health. Suitable health literature is left with the patient. No home visits for communicable disease control or any other educational purpose, is complete without leaving some literature. One main objective of every home visit is to stimulate interest in health as to secure the reading of these health bulletins.

The nurse in an average county, who conscientiously carries out the program so far outlined, has little time for other home visits. In some instances, however, it may be necessary for her to make a home visit in connection with the pre-school and school work in order to help secure a physical examination and the correction of defects. The responsibility for the correction of these defects is, however, with the teacher in the case of the school child, and in the case of the pre-school child, with the organization sponsoring the Beginners' Program.

The chief purpose in making a maternal visit is to urge that every expectant mother be examined by a physician at least once before and once after delivery. Every mother is urged to nurse her baby and to wean her baby only with the consent of her physician. Suitable literature is left in this as well as in every other educational visit. The expectant mother is urged to take the Correspondence Course for Mothers.

From the above we see that there is a wide gap between the usual conception of a Public Health nurse with her little black bag, and the nurse who is an organizer, a teacher, and a collaborator in the interests of health with every good work in the community.

Annual Congress on Medical Education, Medical Licensure, and Hospitals.

Dr. P. W. Boyd, Winchester, Va., president of the Virginia State Board of Medical Examiners, was appointed by Governor Pollard as the member of the Board to attend the Annual Congress on Medical Education, Medical Licensure and Hospitals, held in Chicago, February 17-19, 1931. The following is a summary of his report as presented to members of the State Board of Medical Examiners at its meeting in Richmond in June:

I herewith submit my report of the meeting of the Annual Congress on Medical Education, Medical Licensure and Hospitals. This meeting was of much more interest than the one in 1930, probably because I had become acquainted with more of the delegates and because of their friendly attitude toward all the members present.

There was a symposium on the care of the mentally ill in the United States, the first speaker being Dr. Ray Lyman Wilbur, Secretary of the Interior, whose subject was "Mental Health as a National Problem." He advocated the open staff for all mental hospitals. His idea was to allow all physicians in each state to treat their own patients in the state hospitals, which idea did not seem to take very well. He urged more autopsies, stating it afforded more opportunities of reviewing the doctor's mistakes. Most of the patients were of middle age and had been treated for various diseases, having had the tonsils, kidneys, uterus, ovaries and what not removed without the cause of the mental disease being discovered. He advised that more stress be laid on the study of the endocrine organs—especially the thyroid gland.

I was surprised to hear him state that at St. Elizabeth's Hospital, Washington, D. C., there are one hundred buildings, five thousand beds, and twelve hundred employees. All are departments of our government giving special care to mental hygiene.

Dr. Charles P. Emerson, Dean of the Indiana School of Medicine, presented a paper on "The Present Trend of Medical Education," which was very well received. He does not favor the now popular way of patients being handed from one specialist to another for a diagnosis, stating that the medical man who saw his patient for two minutes, then sent him through the medical machine to the other consultants, sees a number of patients in a day and pro-

duces the volume but the products of his work are not the best. He said, "it is good business but damn poor medicine." He spoke of the laboratory reports being most valuable and did not dare belittle the laboratory, though many men attempted to take a short cut for a diagnosis along this route. His idea was that it gave valuable evidence. The more laboratory work done on a patient the harder one must study his patient. The man back of the microscope who will give his opinion must be well qualified to give a correct one. He stressed the individual studying the patient himself, especially a history well taken, before arriving at a conclusion. It appeared to him that since the war the standard of the doctors seems to be gauged by the dollar mark. Before the war a good doctor may have had a poor automobile and threadbare clothing but his standard was relieving the sick man. Medicine should essentially be altruistic in our profession. He felt that fee splitting and commercialism had entered into our profession to an alarming degree. He stated that 80 per cent of the patients in a certain clinic—did not mention the clinic—who were neurotics had had from one to nine operations performed and no accurate diagnosis made. The desire of the student to practice a specialty makes him forget he is a general practitioner. He should know general medicine before he picks out a specialty, though will probably be the first man to use new serums, the X-ray, and to have all modern equipment in his office, instead of understanding the relative values of symptomatology, physical findings, and histories of his patients. He is about to commercialize his profession. The student should first be taught to swim by having him read the titles of the articles published in the better medical journals; teach him to accept a line of thought and not to accept all the book data as it is now published. Also, teach the recent graduate he cannot give the patient in private practice all the advantages and means of diagnosis owing to expensive equipment necessary in a modern laboratory. He must learn to rely upon his knowledge of common sense, observation, and finally experience, in reaching conclusions.

Another interesting paper was by Dr. Wilburt C. Davison, Dean of Duke University School of Medicine, Durham, N. C., whose subject was, "The Significance of Present Entrance Requirements." He advocated the acceptance of those students only who have exceptional ability. Poorer minds should be rejected in the beginning. The present standard requirements are four years of College but he urges the quality of preparation instead of the number of semester hours. He believes the student requires culture at home and not at college, and at college knowledge and not culture. If a man could have two years at college instead of four years and take longer internship at the hospital he would make a more useful man in the profession. In selecting the candidates at Duke, the requirements for entrance are: first, a letter from the candidate himself; second, a confidential letter from his science teacher; third, a personal interview. The latter he considers the most valuable aid in reaching a conclusion as to which applicant should be accepted.

Dr. Willard C. Rappleye, of New Haven, Conn., spoke on "Methods of Examining Students in Europe." He stated that when a man graduated from the European schools it carried with it the right to practice medicine. Sometimes a student would be in a school for twenty years and not able to practice because he had not met the requirements, as they can keep repeating, and do so as often as the student pleases.

In Germany the examinations are uniform throughout the country. At least 80 per cent will pass the examination and the other 20 per cent will repeat. In the examination in Anatomy and Pathology he must do autopsies as well as pass the written examinations. The student also goes into the wards, takes histories, keeps the charts, prepares records, etc., and then he is given an examination. At the end of this period he holds autopsies, treats patients, and is examined by his chief in this department.

France has only nine medical schools that can grant medical degrees. The hospital examinations are more important than those in the colleges. Internship in France is four years and they are not allowed to graduate until they have had this internship. Besides this, they must have two solid years of lectures and demonstrations before they can have a degree of doctor, and take one year more before they can select a specialty.

England has two types of licensure. There are twenty-three licensing bodies in the United

Kingdom and these are under a general medical council. Only 30 per cent of the students in the University of London finish on schedule —the other 70 per cent fall back to repeat. No student is allowed to be examined by his teacher and they have written and oral examinations. They must have a practical examination in Anatomy, Pathology and Laboratory. This year there are eight hundred American students in England and Scotland who in about three years expect to get licenses and then return and get reciprocity in America. He further stated that these students are not of the best material and the State Boards should be guarded in granting them licenses, for they have been unable to get into the American schools owing to a lack of pre-medical education.

He advocated putting the responsibility of licensing the graduates upon the Medical Schools who graduated the students. That is, they should weed out those who are unqualified before the year of graduation. Let the schools tell the Boards what they want and the Boards will give it to them. On the other hand, the Medical Boards are the means by which the medical schools will maintain their standards. For instance, the American Medical College accepted their standards for the medical schools in 1899, and Hopkins was the only school meeting their requirements. In 1903, four schools had met the requirements. The majority of the Medical Examining Boards established a minimum standard for registration which was two years of college education, accepting no candidates of less preliminary training. This caused the medical schools to raise their standards or become Class B or C schools. Since the American Medical College and State Boards are cooperating as to the standards for pre-medical education, the failures before the Boards, as you all know, are less frequent. In Virginia prior to this, 25 to 30 per cent of applicants failed—now only 5 to 6 per cent.

There is much discussion as to who should be allowed to enter the specialties of medicine. The State Boards being the only legal organization to license doctors should have some method of examining these men who propose to enter into a specialty. It is the opinion of some that the Universities could and should have some post-graduate course requiring each applicant to take a course in that specialty he desires to enter. The State Examining Boards and the Medical Schools are dependent upon each other and vie with each other in grading and qualifying men to practice the healing art. The public must be educated to know that the man who is a graduate of a Class A Medical College and passes a State Board is not yet qualified to practice a specialty until he has had special training in that line of work.

Some advocated that all reciprocity candidates be required to take a practical examination and that they be graduates of five years' standing—this being our best way to convey our duty to the public.

If possible, a uniform medical practice act of all states be adopted. Some thought the composite boards were the best. Here the standard of the osteopath, chiropractor and other cults would be raised to that of the regulars. The states having the Basic Science laws did not seem to be as popular this year as they were last. Each applicant is required to take two examinations—one in medicine and other in Basic Science. Wisconsin will accept for reciprocity applicants coming from states without the Basic Science law, though they do not admit such for publication.

Dr. William Mayo, of Rochester, Minn., read a paper entitled, "The Preliminary Education of the Clinical Specialist," but I was unfortunate in not hearing all of this paper. One of his expressions I recall "Who should be permitted to continue the practice of medicine?" His answer was, "he who attends the medical societies, clinics, post-graduate schools: who attempts to increase his knowledge so as to relieve suffering humanity. He who is morally qualified, and his higher ideals of the profession are more than to commercialize it."

MUSIC HATH CHARMS

If you'll sing a song as you go along,
In the face of the real or fancied wrong;
In spite of the doubt, if you'll fight it out,
And show a heart that is brave and stout;
If you'll laugh at the jeers and refuse the tears—
You'll force the ever reluctant cheers,
And you'll win success with a little song,
If you'll sing the song as you go along.

—*Exchange.*

XUM

Presidents and Places of Meetings of the Medical Society of Virginia

As a matter of interest and record we list on this page the names of presidents and places of meeting of the Medical Society of Virginia.

Dr. James B. McCaw, Richmond, was chairman of the convention which assembled in Richmond, November 2, 1870, to organize the Medical Society of Virginia. Below is given a list of presidents, followed by names of places and years of meetings over which they presided:

President	Place of Meeting	Year of Meeting
Dr. R. S. Payne,* Lynchburg	Richmond	1871
Dr. A. M. Fauntleroy,* Staunton	Lynchburg	1872
Dr. Harvey Black,* Blacksburg	Staunton	1873
Dr. A. G. Tebault,* London Bridge	Norfolk	1874
Dr. S. C. Gleaves,* Wytheville	Abingdon	1875
Dr. F. L. Cunningham,* Richmond	Richmond	1876
Dr. Jas. L. Cabell,* University	Charlottesville	1877
Dr. J. H. Claiborne,* Petersburg	Petersburg	1878
Dr. L. S. Joynes,* Richmond	Richmond	1879
Dr. Henry Latham,* Lynchburg	Alexandria	1880
Dr. Hunter McGuire,* Richmond	Danville	1881
Dr. G. William Semple,* Hampton	Old Point Comfort	1882
Dr. W. D. Cooper,* Morrisville	Fauquier White Sulphur Springs	1883
Dr. J. E. Chancellor,* Charlottesville	Rockbridge Alum Springs	1884
Dr. S. K. Jackson,* Norfolk	Rawley Springs	1885
Dr. Rawley W. Martin,* Chatham	Alleghany Springs	1886
Dr. Bedford Brown,* Alexandria	Fredericksburg	1887
Dr. Benjamin Blackford,* Lynchburg	Richmond	1888
Dr. E. W. Rowe,* Orange C. H.	Norfolk	1889
Dr. Oscar Wiley,* Salem	Roanoke	1890
Dr. Wm. W. Parker,* Richmond	Rockbridge Alum Springs	1891
Dr. H. Gray Latham,* Lynchburg	Lynchburg	1892
Dr. Herbert M. Nash,* Norfolk	Alleghany Springs	1893
Dr. William P. McGuire,* Winchester	Charlottesville	1894
Dr. Robert J. Preston,* Abingdon	Richmond	1895
Dr. Wm. L. Robinson,* Danville	Wytheville	1896
Dr. Geo. Ben Johnston,* Richmond	Rockbridge Alum Springs	1897
Dr. Lewis E. Harvie,* Danville	Hot Springs	1898
Dr. Jacob Michaux,* Richmond	Virginia Beach	1899
Dr. Hugh T. Nelson,* Charlottesville	Richmond	1900
Dr. J. R. Gildersleeve,* Tazewell	Charlottesville	1901
Dr. R. S. Martin,* Stuart	Lynchburg	1902
Dr. John N. Upshur,* Richmond	Newport News	1903
Dr. Joseph A. Gale,* Roanoke	Roanoke	1904
Dr. Wm. S. Christian,* Urbanna	Richmond	1905
Dr. Lomax Gwathmey, Norfolk	Norfolk	1906
Dr. Paul B. Barringer, Charlottesville	Charlottesville	1907
Dr. Wm. F. Drewry, Petersburg	Chase City	1908
Dr. Stuart McGuire, Richmond	Richmond	1909
Dr. E. T. Brady,* Abingdon	Roanoke	1910
Dr. O. C. Wright,* Jarratt	Norfolk	1911
Dr. Hugh M. Taylor,* Richmond	Richmond	1912
Dr. Southgate Leigh, Norfolk	Lynchburg	1913
Dr. Stephen Harnsberger,* Catlett	Washington, D. C.	1914
Dr. Samuel Lile,* Lynchburg	Richmond	1915
Dr. Joseph A. White, Richmond	Norfolk	1916
Dr. Geo. A. Stover, South Boston	Roanoke	1917
Dr. E. G. Williams,* Richmond. Owing to influenza epidemic and the World War, meeting was not held in 1918, and Dr. Williams held over as president	Richmond	1919
Dr. Paulus A. Irving,* Farmville	Petersburg	1920
Dr. Alfred L. Gray, Richmond	Lynchburg	1921
Dr. E. C. S. Taliaferro, Norfolk	Norfolk	1922
Dr. John Staige Davis, University	Roanoke	1923
Dr. W. W. Chaffin,*† Pulaski	Staunton	1924
Dr. Hunter H. McGuire, Winchester	Richmond	1925
Dr. W. L. Harris, Norfolk	Norfolk	1926
Dr. J. Shelton Horsley, Richmond	Petersburg	1927
Dr. J. W. Preston, Roanoke	Danville	1928
Dr. J. Bolling Jones, Petersburg	Charlottesville	1929
Dr. Charles R. Grandy, Norfolk	Norfolk	1930
Dr. J. Allison Hodges, Richmond	Roanoke	1931

*Deceased.

†On account of Dr. Chaffin's illness, the first vice-president, Dr. H. H. McGuire, of Winchester, presided in 1924.

ROANOKE, VIRGINIA

Convention City for Sixty-second Annual Meeting of Medical Society of Virginia October 6, 7, and 8, 1931

Roanoke, with its marvelous growth and development, covered by so short a period of years, is frequently referred to as the "Magic City." Roanoke was not started, however, nor has it reached its present position as one of the important cities of the South by waving a magician's wand. This city did not just happen. The community has attained its present

Hotel Patrick Henry.

proportions because the site of the city is logically located, and it numbers among its citizens thousands of men and women who have had a vision of great possibilities.

The growth has been rapid and continuous, but stable. The city has a corporate population of 70,000. The population of the metropolitan district is 103,120. The city is beautifully located in a mighty amphitheatre between the Alleghany and Blue Ridge Mountains at the southern end of the historic Shenandoah Valley, and at the eastern gateway to beautiful and prosperous Southwest Virginia. The climate is pleasant and healthful all the year.

Roanoke is the medical center of Southwest Virginia and adjacent territory. Six hospitals, with 396 beds, and an efficient health department render splendid service. The Medical Arts Building is one of the most handsome office buildings in the city. Roanoke County is said to be one of the best sanitated counties in America.

Roanoke is sometimes referred to as a railroad town. It is. This is the home of the Norfolk & Western Railway Company; and the trunk line of the Virginia Railway goes this way. However, the city is now more than a railroad town.

From one end to the other may be seen and

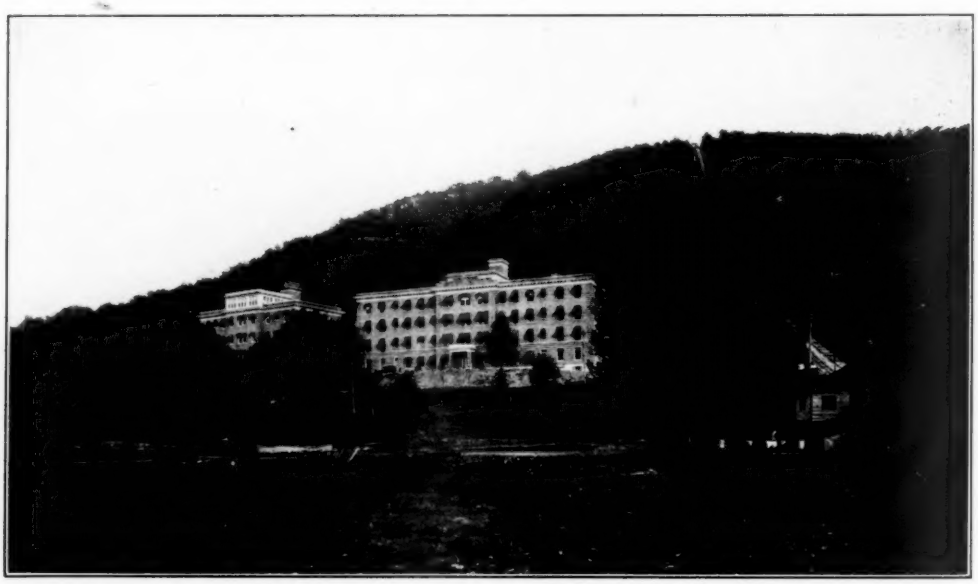
Medical Arts Bldg., Roanoke.

heard the wheels of one hundred and forty-two industries, producing a great variety of products, and employing 18,500 persons, with an annual pay roll of $25,000,000.00

Roanoke, in looking to its future growth, has a City Planning and Zoning Commission, working along the definite lines of the Comprehensive City Plan prepared for the City by a nationally known firm of city planners. This city is an important center in the State Highway System, with through roads in all directions. The tourist visitors are many thousands annually.

Within the city proper we have Mill Mountain, elevation 2000 feet above sea level, from which one gets a panorama of the tail of the Shenandoah Valley and the undulating emerald of the mountain forests; at its base we see

Hotel Roanoke.



Roanoke City Hospital with Mill Mountain in background.

Roanoke looking like a cluster of toy houses and its blinking lights at night.

To the southwest is Mountain Lake, elevation 4500 feet, with its lake nestled in the cone of the peak, a veritable haven of tranquility. One may go to Craig Healing Springs about forty-two miles from Roanoke, or Dixie Caverns about fifteen miles away.

To the west are the Giant Caverns at Narrows, Virginia. Circling, one may go to White Sulphur Springs or Hot Springs.

Norfolk & Western R. R. New Office Bldg.

Going north, Virginians may gaze upon one of the wonders of the world, Natural Bridge and its entrancing beauty, which has been greatly enhanced by unusual night illumination. One may see the Peaks of Otter; go over the Natural Bridge trail with its scenic beauty; further north are the world famous caverns lining the Shenandoah Valley.

We could go on and on in praise about our locale; sufficient to say—Why see Europe first, when we have it all about Roanoke?

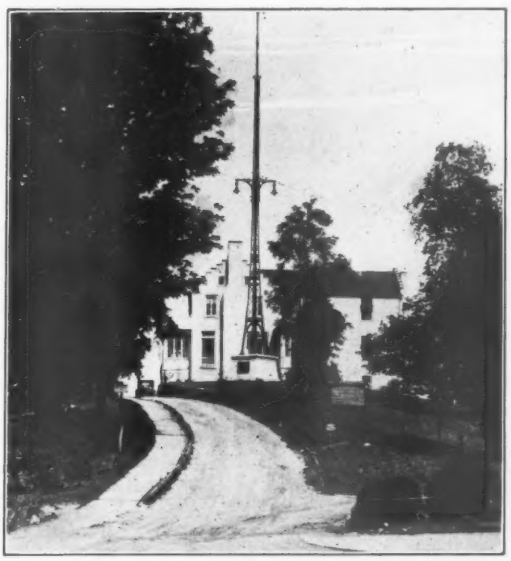
"Roanoke, the city of open hearts, where neither gates nor hearts are ever closed to those whose hearts are right; for then, no matter whence nor why nor when the visitor comes the gain is ours."

The local profession is looking forward with pleasure to the 62nd annual meeting of the Medical Society of Virginia which will be held in Roanoke. Toward making the meeting a success, a committee has been appointed, which is as follows.

General Chairman—Dr. W. L Powell
Treasurer—Dr. F. A. Farmer
Secretary—Dr. Fred Hamlin

Chairmen of Committees

Automobile—Dr. M. A. Johnson, Jr.
Commercial Exhibits—Dr. A. P. Jones
Entertainment—Dr. J. T. McKinney
Finance—Dr. H. B. Stone
Golf Tournament—Dr. R. H. DuBose
Hotels and Halls—Dr. H. H. Trout
Publicity—Dr. K. D. Graves
Reception—Dr. J. W. Preston
Scientific Exhibits—Dr. W. P. Jackson
Trap Shoot—Dr. L. G. Richards
Ladies—Mrs. J. O Boyd



Roanoke Public Library and Elmwood Park.

Three men of national reputation will lecture Tuesday afternoon, October 6th, before the regular meeting starts, under the auspices of the Roanoke Academy of Medicine. While it is impossible to state definitely the name of one of the men, arrangements have been completed with two of them, viz., Dr. Russell L. Cecil and Dr. Chas. G. Kerley, both of New York.

It is hoped that a large number of the doctor's ladies will attend the meeting, and preparations for their entertainment have been made.

Program for the Ladies

October 7th

10:00 A. M.—Meeting of the Woman's Auxiliary, at Hotel Patrick Henry. Reports. Ad-

dress by Mrs. Walter McNabb Miller, of the American Child Health Association

1:30 P. M.—Luncheon at the Country Club, followed by bridge or golf.

10:30 P. M.—Reception for the President, Members and Guests of the Medical Society of Virginia, followed by a Grand Ball in the Patrick Henry Ball Room. Refreshments.

October 8th

10:00 A. M.—Meeting of Woman's Auxiliary. Talk by Dr. W. F. Draper, and Round Table discussions

2:00 P. M.—Trip to Natural Bridge, followed by tea at Forest Tavern. (Automobiles for this trip will be at the Patrick Henry Hotel at 1:45 P. M.)

An effort has been made to make this meeting a memorable occasion for the doctors, as well as their ladies.

Entertainments for the Men

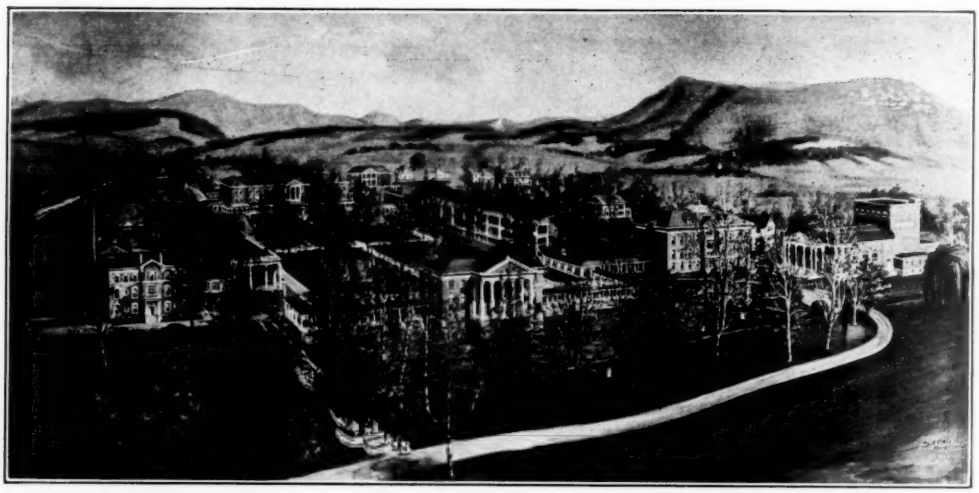
October 6th

10:00 A. M.—Golf Tournament—Roanoke Country Club
Trap Shoot—Roanoke Gun Club.

October 7th

1:00 P. M.—Luncheon at the Elks Club.

10:30 P. M.—Reception for the President, Members and Guests of the Medical Society of Virginia, followed by a Grand Ball in Patrick Henry Hotel Ball Room. Refreshments



Hollins College.

Roanoke Country Club.

October 8th

1:00 P. M.—Trip to Catawba Sanatorium. Luncheon at Sanatorium, 2:00 P. M.

A large Reception Committee has been organized. Each incoming train will be met, and members of the Committee will be on hand at the hotels to extend a cordial welcome and to be of any service possible to the out-of-town guests and members.

Parking space for fifty cars has been secured at the Elmwood parking lot, directly opposite the Patrick Henry Hotel. A card may be obtained from the registration desk which will entitle members of the Society to the use of this space.

Any of the doctors wishing to secure an automobile for a trip, or any other purpose, may do so by telephoning the Chairman of the Automobile Committee.

As hotel space is limited, owing to the fact that both Ponce de Leon and Roanoke Hotels may still be under construction at the time of the meeting, those wishing reservations are urged to apply promptly to either the Chairman of the Hotel Committee, or the Manager of the Patrick Henry Hotel. A list of available boarding houses in the neighborhood of the Patrick Henry Hotel will be on hand at the registration desk for those unable to secure hotel accommodations.

ON TO ROANOKE (by G. M. M.)

'Mid vales and hills,
'Mid rocks and rills,
With mountain sentinels around,
Like sturdy oak
Stands Roanoke,
No fairer landscape can be found.

Come dwell a while
Where sunbeams smile,
And birds are singing in the dell,
Come hear us "blow"
Of what we know,
And see the city where we dwell.

With open arms,
With many charms,
With vales with rivers running through,
She sends a call
To one and all,
And pledges all she has to you.

Be sure to make your plans to attend the Roanoke meeting of the Medical Society of Virginia, October 6, 7 and 8, 1931.

Woman's Auxiliary, to the Medical Society of Va.

PRESIDENT—*Mrs. J. Allison Hodges*, 5511 Cary Street Road, Richmond.

PRESIDENT-ELECT—*Mrs. W. N. King*, 1314 Westover Avenue, Norfolk.

SECRETARY—*Mrs. James K. Hall*, 3011 Seminary Avenue, Richmond.

TREASURER—*Mrs. Wm. Branch Porter*, 5125 Cary Street Road, Richmond.

Our Annual Meeting.

This will be our last message before the Annual Meeting of the Auxiliary in Roanoke, October 6th, 7th, and 8th. The local committee under the able leadership of the chairman, Mrs. John O. Boyd, has arranged a delightful program, and I urge that we show our appreciation of their efforts by a large attendance.

These "get-together meetings," where we meet women from all sections of the State and where we get a clearer understanding of the real work of the Auxiliary, do more to enlarge our membership and increase our interest in medical affairs than any one thing we can do at present.

Let's all pull together and have a large and enthusiastic gathering in Roanoke.

Sincerely,

MARY GRAY HODGES
(MRS. J. ALLISON HODGES),
President, Woman's Auxiliary to the Medical Society of Virginia.

PRELIMINARY PROGRAM

Wednesday, October 7th

10:00 A. M.—Meeting of the Auxiliary in the Red Room of the Patrick Henry Hotel. Reports. Address by Mrs. Walter McNabb Miller, of the American Child Health Association.

1:30 P. M.—Luncheon at the Country Club, followed by bridge or golf, the ladies designating when they register which they prefer.

10:30 P. M.—Reception for the President, Members and Guests of the Medical Society of Virginia, followed by a Ball in the Patrick Henry Hotel Ball Room.

Thursday, October 8th

10:00 A. M—Meeting in the Red Room of the Patrick Henry Hotel. Talk by Dr.

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W. F. Draper. Round Table Discussions.

2:00 P. M.—Trip to Natural Bridge, followed by tea at Forest Tavern. (Cars for this trip will be at the Patrick Henry Hotel at 1:45 P. M.)

Report on Organization Before the Woman's Auxiliary to the American Medical Association in Philadelphia.

The work of the Organization was most interesting, and it has been a great pleasure to serve as your Chairman.

From this report it may seem that very little has been accomplished in organizing States compared to the enormous amount of work actually covered by your Committee. I wish that this report could show you the value of real friends, new and old, who have assisted and stood by me at all times. For them I am indebted to the Auxiliary. and I shall eternally sing its praises.

According to the Constitution and By-Laws, the Organization program is carried on by the active work of the Vice-Presidents—and so the Nation was divided into four districts—each Vice-President, with her Committee of three, being responsible for from eleven to fifteen states. Each of these women has been untiring in her efforts, and I take this opportunity to express to each one my deepest gratitude for the help she has so ably given.

In January, our President, Mrs. J. Newton Hunsberger, feeling the need of more publicity, asked that each District Chairman write a report, or a "Panoramic View" of the Woman's Auxiliary to the American Medical Association, in four articles, which would be published in all State Medical Journals.

First Panoramic View

By Mrs. W. Wayne Babcock, of Pennsylvania

Eastern District: This came out early in January, and was written in order that each district should know of the progress of its own states, as well as those of the other three sections. It was also deeply appreciative of the generous courtesy of the individual State Journals for allowing space in which the Auxiliary could report its activities.

Personal contacts are necessary for County development, and success is plainly shown in the marvelous growth of Pennsylvania, at whose feet all other Auxiliaries are anxious to sit and learn.

New Hampshire and New Jersey are the only States 100 per cent organized. Every County in these States was visited during the year by the State President.

Second Panoramic View

By Mrs. James Blake, of Minnesota

North Central District: Due to her location on the map, the Second Vice-President now finds herself interested in the destinies of this group of States. Looking backward and forward, we find these States all doing something of common interest. In the January *Journal of the Indiana State Medical Society*, the Auxiliary President stresses the importance of more constructive work on the part of her organized County groups. "Physicians wives," she says, "hold an enviable position in being privileged to have a part in a world wide health program, and I would urge every physician's wife to bring before other women dependable knowledge and a just appreciation of the real spirit and purpose, and actual achievements of the medical profession."

In *Illinois* the motto might well read—"Builders we are, and builders we must ever be. Builders, not alone in stone that shelters life, but builders in life." We find good, constructive programs of well balanced educational value.

Minnesota, the North Star State, has had a busy and successful year on organization. The President and Organization Chairman have visited over the State and planned meetings and educational programs with many County groups. The result of this is ten new Auxiliaries, twenty counties with 1,024 members.

Third Panoramic View

By Mrs. C. W. Garrison, of Arkansas

Southern District: The Auxiliaries in the South may not be moving as rapidly as in other sections, but the quality of those existing has proved them to be of the greatest value in promoting the aims of the National body.

Fourth Panoramic View

By Mrs. James Percy, of California

Western District: In a better-late-than-never manner, this article has just been sent in. This shows that the women of the West are now aroused to the possibilities and use-

fulness of an Auxiliary, and experienced women are stepping forward, willing to serve and assist in making an active, worthwhile organization. Growth in numbers has not been sought so much as growth in achievements. *California* really expected to report 1,000 members instead of 883.

These published articles were well received, and we have had a number of letters from the Editors of the State Medical Journals expressing pleasure for the work reported. Now-a-days it is with a real thrill that we open a Medical Journal and see that the aiding hand of the Auxiliary has been asked by some medical President; that we see frequent references to the excellent work the Auxiliary is doing, and know that the Auxiliary is furthering the aims and objects of organized medicine.

In order to have an efficient survey made—to bring you a definite report—a State map containing a questionnaire was sent by the Committee to each State President. With the exception of a few from States where there was very little interest, these were all filled out and returned with the following report:

EASTERN DISTRICT: Fifteen States and District of Columbia.

NEW HAMPSHIRE: Organized 100%. Members, 160.

NEW JERSEY: Organized 100%. Members, 654.

PENNSYLVANIA: Organized counties, 34. Members, 1,980.

KENTUCKY: Organized counties, 30. Members, 320.

VIRGINIA: Organized counties, 6. Members, 220.

WEST VIRGINIA: Organized counties, 9. Members, 298.

DELAWARE: State organization only. Members, 76.

DISTRICT OF COLUMBIA: City organization only. Members, 225.

OHIO: Has two counties organized, 5 more ready—60 members—without State organization.

MARYLAND: The question of an Auxiliary was presented at the April meeting of the Council. Report was "No progress or enthusiasm for a Woman's Organization."

NEW YORK: Has voted for an organization, but the Committee appointed to consider an Auxiliary is not yet favorable. May again come before the House of Delegates in June, 1931.

MASSACHUSETTS: Passed House of Delegates, but has had little support. A leader not found to organize the State.

MAINE: Voted for an Auxiliary without having progressed.

RHODE ISLAND: Hopeful of organizing very soon.

CONNECTICUTT: Approved by House of Delegates without organized effort.

VERMONT: Reported interest of individuals.

WESTERN DISTRICT: Eleven States.

OREGON: Organized counties, 3. Members, 138.
NEBRASKA: Organized counties, 10. Members, 247.
COLORADO: Organized counties, 8. Members, 268.
CALIFORNIA: Organized counties, 11. Members, 883.
ARIZONA: Organized counties, 1. Members, 36.
WYOMING: Organized State. Members, 38.
NEW MEXICO: Members, 17.
IDAHO: Members, 26.
NEVADA: No report.
UTAH: Letter from State President without report.
WASHINGTON: Hopeful; quite sure of organization at State meeting in July.

SOUTHERN DISTRICT: Eleven States.

ALABAMA: Organized counties, 6. Members, 119.
ARKANSAS: Organized counties, 13. Members, 278.
NORTH CAROLINA: Organized counties, 26. Members, 307.
SOUTH CAROLINA: Organized counties, 13. Members, 195.
GEORGIA: Organized counties, 35. Members, 419.
LOUISIANA: Organized counties, 5. Members, 400.
MISSISSIPPI: Organized counties, 10. Members, 134.
OKLAHOMA: Organized counties, 3. Members, 106.
TENNESSEE: Organized counties, 3. Members, 176.
TEXAS: Organized counties, 34. Members, 1,229.
FLORIDA: Organized counties, 12. Members, 215.

NORTH CENTRAL DISTRICT: Eleven States.

ILLINOIS: Organized counties, 18. Members, 550.
INDIANA: Organized counties, 7. Members, 325.
IOWA: Organized counties, 10. Members, 208.
KANSAS: Organized counties, 3. Members, 95.
MICHIGAN: Organized counties, 9. Members, 392.
MINNESOTA: Organized counties, 54. Members, 937.
MISSOURI: Organized counties, 25. Members, 607.
MONTANA: No organization.
NORTH DAKOTA: Just organized, June 2nd and 3rd.
SOUTH DAKOTA: Paid membership, 65.
WISCONSIN: Organized counties, 9.

In the quest for better organization, your Committee has been in close communication with the "little interest" and unorganized States. On the whole, and in spite of a lean year, we feel that the Auxiliary is growing rapidly.

The membership stands at 12,494 with several States unreported.

We recommend not to organize a new State unless it appears reasonably certain that there is interest enough among the doctors who want the Auxiliary.

I should like to say again that I appreciate the honor of being chosen your First Vice-President. It has been a privilege to serve as your Chairman.

Respectfully submitted,

ALICE LEIGH
(MRS. SOUTHGATE LEIGH),
Chairman of Organization, Woman's Auxiliary to A. M. A.

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PRELIMINARY PROGRAM

MEDICAL SOCIETY OF VIRGINIA

Sixty-second Annual Session Roanoke

OCTOBER 6, 7 and 8, 1931

Headquarters: PATRICK HENRY HOTEL

SCIENTIFIC PROGRAM

Tuesday, October 6, 1931
8:00 P. M.
Ball Room, Patrick Henry Hotel
Open to Profession and Public

Call to order—W. L. Powell, M. D., Chairman Committee of Arrangements.
Invocation—Rev. H Spencer Edmunds, D. D.
Announcements.
Address of Welcome—Hon. C. A. Woodrum.
Memorial Hour (audience standing)—Joseph A. White, M. D., Richmond.
Address of President—Brief Comments on Some Medical Topics of Current Interest to the State Medical Profession—J. Allison Hodges, M. D., Richmond.
Address—The Classification and Treatment of Chronic Arthritis (*lantern slides*)—Russell L. Cecil, M. D. (*invited guest*), New York, N Y.
Arthritis Treated as a Form of Bacterial Allergy—Warren T. Vaughan, M. D., Richmond.
Discussion opened by J. Blair Fitts, M. D., Richmond.
Problems in the Relationship of Streptococci and Diphtheroid Bacilli to Chronic Infectious Arthritis—Aubrey H. Straus, Richmond.
Discussion opened by O. O. Ashworth, M. D., Richmond.
Is the Family Physician Any Longer a Necessity?—J. H. Hiden, M. D., Pungoteague.
The Old Family Physician Fast Coming Back Into His Own, As In Former Days—B. C. Keister, M. D., Washington, D. C.
Discussion opened by L. G. Pedigo, M. D., Roanoke.

Wednesday, October 7, 8:45 A. M.

Ward Walk, with Discussion of Some Clinical Problems—M. J. Payne, M. D., Staunton.
The Treatment of Fractures by Local Anesthesia and Skeleton Traction (*lantern slides*)—James T. Tucker, M. D., Richmond.
Discussion opened by H. Page Mauck, M. D., Richmond.
Advantages of the Plaster Traction Splint (*lantern slides*)—J B. Dalton, M. D., Richmond.
Discussion opened by James T. Tucker, M. D., Richmond.
Abdominal Drainage—Southgate Leigh, M. D., Norfolk.

10:00 A. M.

Special Order—Symposium on Mental Hygiene

(a) The Mental Hygiene Movement—Ralph C. P. Truitt, M. D. (*invited guest*), Baltimore, Md.
(b) A Survey of Mental Disease in Virginia—D. C. Wilson, M. D., University.
(c) Present Activities for the Prevention of Mental Disorders in Virginia—William F. Drewry, M. D., Richmond.
(d) A Suggested Program of Mental Hygiene for Virginia—Beverley R. Tucker, M. D., Richmond.

Discussion:
In Relation to General Medicine—I. C Harrison, M. D., Danville.
In Relation to Surgery—R. L. Payne, M. D., Norfolk.
In Relation to Pediatrics—L. T. Royster, M. D., University.

Voluntary Papers

Epidemic Encephalitis—John R. Gill, M. D., Petersburg.
Discussion opened by D. C. Wilson, M. D., University.
How Far Will a Malingerer Go?—E. P. Tompkins, M. D., Lexington.
Insufficient Treatment in Early Syphilis Predisposes to Central Nervous System Syphilis—D. C. Smith, M. D., and R. E. Glendy, M. D., University.
Discussion opened by R. D. Kimbrough, M. D., Norfolk.
The Relation of Infection During Early Life to Subsequent Mental Disorders—Buckner M. Randolph, M. D., Charlottesville.
Eugenic Control and Its Relationship to the Science of Life and Reproduction—J. H. Bell, M. D., Colony.
Diagnosis and Surgical Treatment of Meniere's Syndrome (*lantern slides*)—C. C. Coleman, M. D., Richmond.
Some Considerations of Spontaneous Subarachnoid Hemorrhage, with Report of Four Cases (*lantern slides*)—Staige D. Blackford, M. D., University.
Birth Control—W. M. Bowman, M. D, Petersburg.
Discussion opened by W. B. McIlwaine, M. D., Petersburg.
Leptothrix Buccalis Infection—T. Latane Driscoll, M. D, Richmond.

1:00 P. M.—Luncheon at Elks Club

Wednesday, 3:00 P. M.

The Practical Application of the Modified Ascheim-Zondek Test for Pregnancy: Demonstration with Test Animals—William K. Lloyd, M. D., Christiansburg.
Discussion opened by A. M. Groseclose, M. D., Roanoke.
Value of the Hormone Test for Early Pregnancy—Walter B. Martin, M. D., Norfolk.
Trichomonas Vaginitis—C. J. Andrews, M. D., Norfolk.
Discussion opened by Stuart Michaux, M. D., Richmond.
The Teaching of Prenatal and Postnatal Care—Greer Baughman, M. D., Richmond.
Discussion opened by C. J. Andrews, M. D., Norfolk.

The Significance of the Schilling Differential Blood Count in Acute Infections of Childhood: A Brief Resumé—W. Ambrose McGee, M. D., Richmond.
Discussion opened by Douglas G. Chapman, M. D., Richmond.
The Etiology and Treatment of Enuresis—John S. Weitzel, M. D., Richmond.
Discussion opened by F. D. Wilson, M. D., Norfolk.
The Relation of Pneumonia to Vitamins—St. Geo. T. Grinnan, M. D., Richmond.
Discussion opened by Henry Stern, M. D., Richmond.
Diabetes in Children and Young Adults—H. B. Mulholland, M. D., University.
Diabetic Coma: A Report of Twenty-two Cases—D. C Ashton, M. D., Richmond.
Trichiniasis: Report of Five Cases in One Family—Oscar Swineford, Jr., M. D., and W. W. Waddell, Jr., M. D., University.

Wednesday, 8:00 P. M.

Reports from Special Committees.
Interrelationships of Preventive and Curative Medicine—Warren F. Draper, M. D., State Health Commissioner, Richmond.
Pericardial Adhesions (*lantern slides*)—Hugh H. Trout, M. D., Roanoke.
Discussion opened by E. P. Lehman, M. D., University.
Repair of Bilateral Harelip (*lantern slides*)—J. G. Lyerly, M. D., Richmond.
Radio-Therapy of Non-Malignant Conditions—Claude Moore, M. D., Washington, D. C.
Don'ts in Dermatology—J. Beverly DeShazo, M. D., Ridgeway.

10:30 P. M.—Reception for Presideent, Members and Guests of the Society, followed by a Grand Ball in the Patrick Henry Hotel Ball Room. Refreshments.

Thursday, October 8, 1931, 8:45 P. M.

Iodine Fast Hyperthyroidism: A Problem in the Treatment of Goitre—Linwood D. Keyser, M. D., Roanoke.
Discussion opened by J. Shelton Horsley, M. D., Richmond.
Report of a Case of Cardiac Failure with Low Basal Metabolism and Hypertension—Kinloch Nelson, M. D., Richmond.
Physical Factors in Coronary Occlusion—J. Morrison Hutcheson, M. D., Richmond.
Angina Pectoris Assocated wth Pernicious Anemia—William B. Porter, M. D., Richmond.
Discussion opened by F. C. Rinker, M. D., Norfolk.
The Difficulties Encountered in the Etiological Diagnosis of Arotic Regurgitation (*lantern slides*)—Andrew D. Hart, M. D., and J. Edwin Wood, Jr., M. D., University.
Why Always Appendectomy?—M. B. Hiden, M. D., Warrenton.
Report of Nine Hundred Consecutive Abdominal Operations—Geo. H. Reese, M. D., Petersburg.
Discussion opened by J. E. Rawls, M. D., Suffolk.
Subphrenic Abscess as a Post-Operative Complication in Abdominal Surgery (*lantern slides*)—J. Warren Sayre, M. D., Newport News.
Discussion opened by A. P. Jones, M. D., Roanoke.
Trauma of the Abdomen—Frank S. Johns, M. D., Richmond.
Discussion opened by M. A. Johnson, M. D., Roanoke.
The Treatment of Postoperative Intestinal Obstruction—Charles R. Robins, M. D., Richmond.
Discussion opened by I. A. Bigger, M. D., Richmond.
Vaginal Hysterectomy for Cancer of the Body of the Uterus—J. Shelton Horsley, M. D., Richmond
Discussion opened by W. R. Whitman, M. D., Roanoke.
A Consideration of Uterine Fibromyoma and Other Causes of Non-Malignant Uterine Bleeding—Robert L. Payne, M. D., Norfolk.
Discussion opened by W. H. Goodwin, M. D., Universty.
Cancer of the Cervix: Observations Drawn from the Study of One Hundred Cases Treated with Radium—W. Lowndes Peple, M. D., Richmond.
Traumatic Industrial Surgery—E. T. Trice, M. D., Richmond.
Discussion opened by H. U. Stephenson, M. D., Richmond.
The X-Ray in Emergency Surgery (*lantern slides*)—M. H. Todd, M. D., Norfolk.
Discuss on opened by E. C. S. Taliaferro, M. D., Norfolk.

1:00 P. M.—Trip to Catawba Sanatorium. Luncheon at Sanatorium at 2:00 P. M.

Thursday, 3:00 P. M.
Catawba Sanatorium

Discipline in the Treatment of Tuberculosis—J. E. K. Flannagan, M. D., Salem.
Discusson opened by Frank B. Stafford, M. D., Sanatorium.
The Physical and X-Ray Examination of the Tuberculous Chest (*lantern slides*)—J. B. Nicholls, M. D., and L. R. Broome, M. D., Catawba Sanatorium.
Discussion opened by W. E. Brown, M. D., Sanatorium.
Difficulties in the Diagnosis of Atypical Cases of Pulmonary Tuberculosis (*lantern slides*)—Frank B. Stafford, M. D., Sanatorium.
Discussion opened by Dean B. Cole, M. D., Richmond.
Early Diagnosis of Tuberculosis in Children and Young Adults (*lantern slides*)—Charles W. Scott, M. D., Richmond.
Discussion opened by C. L. Harrell, M. D., Norfolk.
Hunger Pain Without Peptic Ulcer—Wm. H. Higgins, M. D., Richmond
Discussion opened by Blanton P. Seward, M. D., Roanoke.
Gastric and Duodenal Secretion: Comparison of Stimuli—Robert S. Preston, M. D., Richmond.
Discussion opened by J. Morrison Hutcheson, M. D., Richmond.
Gastric Cancer—M. O. Burke, M. D., Richmond.
Discussion opened by Carrington Williams, M. D., Richmond.
Chronic Gonorrhea as a Clinical Entity—C. B. Pritchett, M. D., Hopewell.
Discussion opened by A. I. Dodson, M. D., Richmond.
Transplantation of the Ureters in Exstrophy of the Bladder—A. I. Dodson, M. D., Richmond.

Special Order—Report from the House of Delegates

Induction of New President.
Adjournment.

All papers and contributions are the property of the Society and should be given the Reporter immediately after presentation, for publication in THE MONTHLY.

ANNOUNCEMENTS
REGISTRATION AND INFORMATION BUREAU
Patrick Henry Hotel

Dues may be paid at Registrar's desk. Please advise Registrar of any change of address.

GENERAL AND SCIENTIFIC SESSIONS
Patrick Henry Hotel

BUSINESS SESSIONS
Executive Council—Patrick Henry Hotel, Room 236, Tuesday, October 6, at 12 M.

House of Delegates—Patrick Henry Hotel, Breakfast Room, Tuesday, October 6, at 2:30 P. M., and Wednesday, October 7th, at 2:30 P. M.

CLINICS
Tuesday, October 6
2:00 to 5:00 P. M.

Medical—Russell L. Cecil, M. D., New York.
Pediatric—Charles G. Kerley, M. D., New York.
Obstetric—To be announced.

SCIENTIFIC AND COMMERCIAL EXHIBITS
Patrick Henry Hotel

WOMAN'S AUXILIARY
Red Room, Patrick Henry Hotel

ENTERTAINMENTS
Tuesday, October 6, 10:00 A. M.—Golf Tournament—Roanoke Country Club.
Trap Shoot—Roanoke Gun Club.
Wednesday, October 7, 1:00 P. M.—Luncheon at the Elks Club.
10:30 P. M.—Reception for the President, Members and Guests of the Medical Society of Virginia, followed by a Grand Ball in Patrick Henry Hotel Ball Room. Refreshments.
Thursday, October 8, 1:00 P. M.—Trip to Catawba Sanatorium. Luncheon at Sanatorium, 2:00 P. M.

The Truth About Medicine

In addition to the articles enumerated in our letter of June 26th, the following have been accepted:
Abbott Laboratories
Capsules Pentobarbital Sodium—Abbott, 1½ grains.
Ely Lilly & Co.
Pulvules Pentobarbital Sodium—Lilly, 1½ grains.
Elixir No. 229, Ephedrine Sulphate, 2 grains.
Parke, Davis & Co.
Ventriculin, 100 Gm. Bottle
Sandoz Chemical Works, Inc.
Sandoptal
Tablets Sandoptal, 0.2 Gm.
Nonproprietary Articles
Pentobarbital Sodium.

NEW AND NON-OFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, for inclusion in New and Non-official Remedies:

Alpha Naphthol Camphor Oil (Carel).—It contains alpha-naphthol (New and Non-official Remedies, 1931, p. 292), 0.5 Gm.; camphor, 0.5 Gm.; cottonseed oil, 12 Gm.; liquid petrolatum to make 100 Gm. Carel Laboratories, Redondo, Calif.

Alpha-Naphco Camphor Nasal Unguent.—It contains alpha-naphco (New and Non-official Remedies, 1931, p. 293), 2 Gm.; camphor, 2 Gm.; petrolatum to make 100 Gm. Carel Laboratories, Redondo, Calif.

Alpha-Naphco Cones.—Each cone weighs 2.65 Gm. and contains alpha-naphco (New and Non-official Remedies, 1931, p. 293), 0.32 Gm., in a base composed of boric acid and sodium bicarbonate, equal parts. Carel Laboratories, Redono, Calif.

Alpha-Naphco Menthol Suppositories.—Each suppository weighs 5.2 Gm. and contains alpha-naphco (New and Non-official Remedies, 1931, p. 293), 0.356 Gm., and menthol, 0.014 Gm., in a base composed of oil of theobroma and yellow wax. Carel Laboratories, Redondo, Calif.

Alpha-Naphco Rectal Suppositories.—Each suppository weighs 2 Gm. and contains alpha-naphco (New and Non-official Remedies, 1931, p. 293), 0.1376 Gm. in a base composed of oil of theobroma and yellow wax. Carel Laboratories, Redondo, Calif.

Alpha-Naphco Zinc Stearate Camphor Ointment.—It contains alpha-naphco (New and Non-official Remedies, 1931, p. 293), 7.5 Gm.; camphor 1.5 Gm.; zinc stearate, 10 Gm.; starch 10 Gm., petrolatum to make 100 Gm. Carel Laboratories, Redondo, Calif.

Alpha-Naphco Zinc Stearate Powder.—It contains alpha-naphco (New and Non-official Remedies, 1931, p. 293), 3.65 Gm.; zinc stearate, 8.75 Gm., talcum to make 100 Gm. Carel Laboratories, Redondo, Calif. (Jour. A. M. A., July 11, 1931, p. 103).

Liver Extract.—Lederle.—A concentrated, water soluble, nitrogenous, nonprotein fraction obtained from fresh mammalian liver. It is supplied in vials containing an amount of powdered extract representing approximately 100 Gm. of fresh, whole liver. The product is proposed for use in the treatment of pernicious anemia and tropical sprue. Lederle Laboratories, Inc., Pearl River, N. Y.

Rabies Vaccine (Hixson).—An antirabic vaccine (New and Non-official Remedies, 1931, p. 358), prepared according to the general method of David Semple (phenol killed). The product is marketed in packages of seven vials, in packages of fourteen vials and in packages of fourteen syringes. (Jour. A. M. A., July 18, 1931, p. 179).

Foods

The following has been accepted by the Committee on Foods of the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in Accepted Foods:

SMACO (203) Concentrated Liquid Whole Milk (Sterilized) (S. M. A. Corporation, Cleveland).—A canned evaporated milk. The product is produced exclusively for infant feeding. It is claimed to keep indefinitely in the unopened can.

Propaganda for Reform

The Federal Food and Drugs Act: 1906-1931.—A quarter of a century ago, on June 30, 1906, President Theodore Roosevelt signed the Food and Drugs Act specifically designated "for preventing the manufacture, sale, or transportation of adulterated or misbranded or deleterious foods, drugs, medicines and liquors and for regulating traffic therein, and for other purposes." This measure has had a wholesome effect that can scarcely be realized by those not familiar with the conditions of the past. The American Medical Association, through the Council on Pharmacy and Chemistry, has been a pioneer in its efforts to protect the medical profession and the public against fraud, undesirable secrecy and objectionable advertising in connection with proprietary medicinal articles. Its efforts have been greatly facilitated by the passage and enforcement of the

Food and Drugs Act. The coming of age of the Food and Drugs Act should not be allowed to pass without some reference to the dominant figure in the crusade for pure foods and drugs, the late Dr. Harvey Washington Wiley. He was chief chemist of the U. S. Department of Agriculture during the period of the fight for the Federal act, and until 1912, "a very mountain among men, a lion among fighters." The movement that he helped to start deserves unqualified commendation. The forces on the fighting line deserve congratulation. There is still much to be accomplished. Vigilance must never be relaxed. (Jour. A. M. A., July 4, 1931, p. 32).

Therapeutic Possibilities of Gastric Mucin.—The gastric mucus aids in protecting the cells from digestive or "erosive" damage by the acid that is poured into the lumen of the stomach when the gastric glands are active. Undue secretion of mucus in the stomach is responsible for lowering of the gastric acidity, just as proteins tend to "bind" free hydrochloric acid. The actual capacity of mucus to produce such an effect has been verified. Mucin prepared from hogs' stomachs was more potent than equivalent amounts of common protein foods such as gelatin, meat and egg white. In a few human patients with definite histories of ulcer and roentgenographic evidence of peptic ulcer the addition of powdered mucin to the ordinary bland diet brought about relief from subjective symptoms. (Jour. A. M. A., February 28, 1931, p. 693).

Avertin.—The Council on Pharmacy and Chemistry reports that Avertin was submitted for consideration in February of this year; that it recognizes the fact that the product presents certain desirable properties but that definite action concerning its recognition is postponed pending investigation of certain of its side actions now being conducted. For the information of the medical profession the Council submits a report concerning the present status of the drug. Avertin is tribrom-ethanol. It was introduced in Germany in 1926, to be used alone for rectal anesthesia, or to be supplemented by other narcotics, including morphine and ether. Later Avertin was offered in a solution, 1 c.c. of which contains 1 Gm. of Avertin dissolved in amylene hydrate (tertiary amyl alcohol). This solution has been the subject of several hundred reports. After reviewing the reported advantages and disadvantages the Council concludes: though the present evidence indicates that Avertin may prove valuable as a means of initiating narcosis but not for complete narcosis, the Council decided not to admit the drug to New and Non-official Remedies. (Jour. A. M. A., November 8, 1930, p. 1427).

Book Announcements

Milk Allergy. A Brief Resumé of Current Literature on Milk Allergy with a Description of SMACO Non-Allergic Milks and Suggestions for Their Use. Booklet No. 300. From the Research Division, S. M. A. Corporation, Cleveland, Ohio. Pamphlet of 24 pages.

This booklet is offered free of charge to physicians who will write the S. M. A. Corporation at Cleveland, Ohio, asking for it. SMA and SMACO products are not advertised to the public and carry on the label the statement that they are to be used only under the direction of a licensed physician.

Modern Proctology. By MARION C. PRUITT, M. D., L. R. C. P., S. (Ed), F. R. C. S. (Ed.), F. A. C. S., Atlanta, Georgia. Associate in Surgery, Emory University School of Medicine; Assistant Visiting Surgeon, Grady Hospital; Proctologist, Crawford W. Long Memorial Hospital and Clinic, Georgia Baptist Hospital, and Anti-Tuberculosis Association, etc. St. Louis. The C. V. Mosby Company. 1931. Octavo of 404 pages. With 233 Illustrations. Cloth. Price, $8.00.

Bedside Interpretations of Laboratory Findings. By MICHAEL G. WOHL, M. D., Associate Professor of Experimental Medicine, Temple University Medical School; Chief of Metabolic Clinic, Temple University Hospital and Chief of the First Medical Diagnostic Clinic, Mt. Sinai Hospital, Philadelphia. With an Introduction by JOSEPH McFARLAND, Sc. D., Professor of Pathology, University of Pennsylvania. St. Louis. The C. V. Mosby Company. 1931. Octavo of 320 pages. Illustrated. Cloth. Price, $6.00.

Cutaneous X-Ray and Radium Therapy. By HENRY H. HAZEN, A. M., M. D., Professor of Dermatology, Medical Department of Georgetown University; Professor of Dermatology, Medical Department of Howard University, etc. St. Louis. The C. V. Mosby Company. 1931. Octavo of 166 pages. Illustrated. Cloth. Price, $3.00.

Medical Jurisprudence. By CARL SCHEFFEL, Ph. B., M. D., LL. B. Philadelphia. P. Blakiston's Son and Company, Inc. 1931. Octavo of 313 pages. Cloth. Price, $2.50 net.

The Child From One to Six. His Care and Training. United States Department of Labor. W. N. Doak, Secretary. Children's Bureau. Grace Abbott, Chief. Bureau Publication No. 30. Revised January, 1931. United States Government Printing Office. Washington. 1931. Octavo of 150 pages. Illustrated. Paper. For sale by the superintendent of Documents, Washington, D. C. Price, 10 cents.

Survey and Report on the Work of Blindness Prevention in India. For the Year 1930. The All-India Blind Relief Association (The Green Star Society). Town Hall, Bombay, India. Pamphlet of 73 pages. Illustrated.

The Occupational Incidence of Cancer. A paper by FREDERICK L. HOFFMAN, LL. D., Consulting Statistician, The Prudential Insurance Company of America. Contributed to the International Occupational Disease Conference. Geneva, Switzerland. Pamphlet of 23 pages.

Problems In Medical Service. By WILLIAM H. ROSS, M. D., Ex-president, Medical Society of the State of New York. Pamphlet of 87 pages, consisting of 21 addresses. Harry Lee Publishing Co,. Inc. Riverhead, N. Y.

Proceedings of the Annual Congress on Medical Education, Medical Licensure and Hospitals. Chicago, February 16, 17 and 18, 1931. American Medical Association. Chicago, Ill. Pamphlet of 131 pages.

United Fruit Company. Medical Department. Nineteenth Annual Report. 1930. Made in United States of America. Octavo of 276 pages with Illustrations. Paper.

XUM

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Editorial

Pediatrics and the Physician.

The family physician or general practitioner, in the city, small town or rural section, may well call to mind the requirements of the infant and the young and growing child. Much that is done for the apparently well infant and child is done at the suggestion of the physician. From him must come the advice that the child should receive a periodic physical examination, that the child should be subjected to certain vaccinations and other prophylactic procedures. The family doctor at this season of the year should take the initiative and, in connection with public efforts of the board of health, should advocate a careful inspection and physical survey of the child before a return to school-contacts and crowding. An interesting and significant statement has been made recently that, following a questionnaire on the point involved, 55 per cent of families are favorable to health examinations in young infants and only 9 per cent favor them in children of school age. Of course, this is probably due to the sentimental appeal of the infant and to the more successful control of the subject. As against the objection of the young child and the difficulties involved, it becomes a matter of education of the parent by the public health agents and the physician in the home.

The physician in the home must feel the urge himself through the influence of a freshened interest in the subject of health examination and in the equipment of the special knowledge involved in child life. Pediatric specialists, of course, need no such prodding but the general or family physician, whose duties cover a wide field and deal with what may be said to be more serious problems of practice, may need special study in order to arouse an interest in problems and procedures of pediatrics. The ability to make such examinations can only be acquired by such efforts. Skill and efficiency begin to become more and more easily attained by practical application in daily practice.

One of the prerequisites to acquiring knowledge in this field or even to arousing interest in the mind of the practitioner, is a review in a general way of the literature of this field; not the complex or difficult or debatable problems, but the elementary, simple and fundamental side of childhood problems in health. One should review facts concerning the new born, physical and mental growth of infants and child characteristics of puberty and adolescence; measurements of growth as found in height and weight; certain hereditary tendencies of body and posture; and the effect of normal and abnormal endocrine glands. One should inform oneself on the general subject of nutritional requirements of infants and children—as digestive and metabolism and nutritional problems of various sorts are to

be met and solved. Breast feeding, cow's milk and other foods, vitamins and mineral qualities of food in infancy and childhood, should be known by the practitioner. Here he meets and, in health examinations, is called upon to recognize such deficiency diseases as scurvy and rickets, allergic phenomena and various skin symptoms and diseases. He should understand the nature of malnutrition in infancy and childhood and recognize signs of acidosis and alkalosis. The family doctor should know the general facts concerning contagious diseases—their preventive measures through vaccination and the manner and ways of transmission; scarlet fever, its prevention and immunization, its dangers and its complications; measles, diphtheria, mumps, smallpox, and epidemic meningitis. The proper tests for susceptibility and the prevention by immunization of this type of diseases of childhood should be reviewed.

The mouth and nose examination is of prime importance. Although more or less difficult because of the lack of cooperation, and more often, because of opposition and resistance of the unwilling child patient, it should not be omitted. In this field the physician should qualify himself with certain elementary knowledge, for tonsil, adenoid, ear, teeth, and nose infections and pathology may be the great handicap, the cause of malnutrition and undergrowth, and the cause of possible respiratory and systemic infections of childhood. The chest examination is not so difficult to make but requires special knowledge to detect incipient tuberculosis, etc., and also requires special understanding of the heart as to whether or not it is normal or abnormal. The examination for deformities of the trunk and extremities, and for deformities of muscular or bone development should be done on the stripped child. The examination of the abdomen for possible disease or pathology of the appendix, gall-bladder, spleen, liver, as well as the examination of generative organs is important to the practitioner in considering the infant and child. Besides, environmental and hygienic factors that surround the child should be inquired into and, in order to inform one's self in regard to the most approved status of this phase of child-life, it is well for the practitioner to review some well considered monograph on the question.

REFERENCE

Pediatric Education: Report of the Sub-Committee on Medical Education at the White House Conference, by B. S. Veeder.

Vaccination and Immunization and Schick Test.

The two preventive measures—vaccination and immunization—have become generally adopted by pediatricians as accepted measures that should be carried out in childhood. The ravages of the preventable diseases of childhood of more than thirty years ago as compared to the incidence and mortality of these diseases at this time stand out as sufficient proof of the justification for the use of these two specific preventive measures. Both of these procedures should be adopted by the family doctor and the administration advocated in the home.

In a recent questionnaire, it was found that 98 per cent of pediatricians advised vaccination and only 2 per cent followed the practice of allowing the parent to suggest it before giving it. Only 55 per cent, however, states the report herein quoted, urge it for infants under one year. Likewise, immunization by toxin-antitoxin against diphtheria is favorably urged by pediatricians, for 91 per cent urged it while only 7 per cent gave it only when parents requested it, and a half of 1 per cent do not believe in it.

The Schick test has not yet attained the same degree of success in application. This report shows that 2 per cent give it to determine sensitivity of infants under one year and 30 per cent do not give it at all. The questionnaire states that only 62 per cent especially urge it. The value and general adoption of this test awaits time and experience.

Postgraduate Instruction in Childhood Problems of Health and Disease.

There has been properly a recent survey of present undergraduate instruction of pediatrics in the medical schools of America. It was found that while some schools appear to be giving this important branch of medicine a proportionately proper place in the student's education, there was in some quarters inadequate instruction and clinical teaching of the subject, in the light of present day knowledge and requirements. No doubt, efforts will be continued to bring this branch of medicine, the country over, to its proper place in the education of the medical student. But, of

course, the same problem remains, that there is so much accumulated knowledge and so little time in four brief years to give to all medical branches such time as the value of each subject seems to require. The same rule applies in other lines of special knowledge—the school teaching can be given only on the fundamentals and a limited amount in technical details of the science and clinical practice. One, who would devote himself exclusively to the practice of pediatrics, should give added years after graduation in general medicine to the study of the complex and intricate problems of this ever expanding science. But, happily, not all the problems of the child, in fact, not a large proportion of the problems of child growth and child disease, are beyond the depth of the knowledge of the well trained, thoughtful, studious, general practitioner.

So it is well for the already practicing physician in the home, the country over, to take up postgraduate instruction in pediatrics by a course of reading in modern textbooks by accepted authorities on the subject, by visitation to various medical schools and hospital clinics where intensive courses in modern pediatrics are given, and by attendance upon group assemblies for the study of pediatrics, fostered by medical societies and Public Health Commissions. All of these methods of postgraduate study have advantages and disadvantages. After all, intensive reading and attendance upon clinics furnishes the work-a-day physician of ten to thirty years of practice the best means for renewing his knowledge and gaining efficiency in newer methods and procedures in childhood diseases and problems.

President's Message

The Roanoke Meeting, October 6th—8th.

Another annual meeting of the State Society is near at hand, and a most cordial invitation is extended to every member to attend the sessions to be held at Roanoke on all three days, October 6th, 7th, and 8th. The different functions of the Society are social, scientific and business, but the main feature evident in all these is the educational advantages that are to be derived from social contacts and scientific discussions. It is a trite expression to say that it is the duty of members to attend, but it is a truer one to emphasize the fact that non-attendance often means a lost opportunity to keep in contact with modern medical advances. Such sources of information as these annual meetings afford should not be casually nor safely "passed up" for new tools and good tools are necessary for good work. This probably explains why the busiest doctors are always present at these meetings for they seek the latest and the best for themselves and their patients.

Several weeks ago, a young physician, who was intending to come to Virginia to practice, wrote to ask if there was any necessity for joining the State Society, and what advantages, if any, accrued because of such membership. Such an inquiry was, of course, startling but not so flippant as it might appear, for his apparent ignorance might justly have been due to the inefficiency of the Society in the State from which he came. We are pleased to know that no such reflection can be made upon our Society and its work, and that its best guarantee for the future is that its roll call embraces nearly every practitioner in the State. In other words, it is the working unit of organized medicine in the State, and with its component society units, is representative in thought and action in all medical matters in Virginia. Such an association of physicians, then, with such power and influence, demands of every member his personal attendance and cooperation, and it is earnestly hoped that at this meeting there will be a large and enthusiastic attendance.

Subjects of great scientific interest will be discussed and matters of vital business importance to the profession as well as to the State will be presented for decisive action. Every member, be he young or old, should make an earnest effort to be present, for, as a rule, the attendance is not always truly representative of every section of the State.

Every county society must be represented at least by its delegates for two matters of the gravest importance to each county in Virginia will be acted upon at this meeting.

Likewise, more individual and general discussion of the scientific papers is desired. Read carefully the full program and be prepared to discuss individually some one or more papers that will be submitted.

Personal experiences more than anything else add to the value of scientific discovery and progress in medicine and, in these meetings, the teacher often becomes the scholar.

On Wednesday night, an unusual feature will be introduced in the formal presentation of Virginia's new Health Commissioner and the presentation of the work of some of the Special Committees that are of state-wide interest and importance; all County and State Health officers that are members are urged especially to attend this session.

Remember the scheduled dates and come yourself and render a better service still by bringing a new member with you.

J. Allison Hodges, M. D., *President,*
Medical Society of Virginia.

Department of Clinical Education
OF THE MEDICAL SOCIETY OF VIRGINIA

Infant Welfare.

There has been no forward step in medicine in Virginia for many years equal to the postgraduate clinical education sponsored by the Medical Society of Virginia.

It is not practical for very many busy doctors to go to the teaching centers for postgraduate work. It is not the privilege of many to go to the meeting of the State Society. The postgraduate department now takes a part of the Society to the doctor and offers instruction in a condensed form so that much information which is constantly useful in daily practice is available to every doctor in the State.

Pediatrics has possibly been more neglected than any other branch of medicine. Although about one-third of the practice of the doctors is among infants and children, few of them have apparently given much time and thought to this subject, especially to infant feeding, some practitioners depending largely upon literature advertising some food or foods as ideal and applicable to all feeding cases. It is certain that the importance of infant feeding has not yet reached its full realization. There is no better way than this to practice preventive medicine. A baby that is given the proper start and physical foundation is not only less susceptible to disease, but has much greater resistance to combat it, should it develop.

It is a daily occurrence to find surgeons, obstetricians, general practitioners, midwives, and kind neighbors attempting to feed infants without realizing the importance of being properly prepared to do so or the danger of damage which they might do. There is a reason for this condition The difference of opinion among the pediatricians and the rapidly changing and different methods of feeding are obviously confusing. There are, however, some general principles which are always applicable and useful. Every infant and child is an individual patient and should be treated as such. With these principles in mind and a fair knowledge of pediatric diagnosis and infant feeding, many feeding cases that would possibly be a problem will be simplified.

It is not necessary to memorize long complicated formulas or to have an elaborately equipped office to do good pediatrics. In the rural sections where there is an abundance of milk, fresh fruits, and vegetables, and sunshine, very effective work may be done.

Infant mortality has decreased to less than one-half of what it was fifteen years ago. No one agency or phase of specialization can take all the credit for this. Better obstetrics, prenatal care, postnatal care, better methods in infant care by pediatricians, more interest in postgraduate education, public health service, and education of mothers, all are important factors in this great accomplishment. Still there is a field for more improvement and it will be a beneficial service to the welfare of the public and to the individual doctors if the Medical Society of Virginia continues to sponsor these clinics and has more of them, and if every practitioner in the State will be ambitious enough to give this most important branch of medicine his earnest consideration.

P. W. Miles, M. D.,
Member of Child Welfare Committee, M. S. V.

XUM

Postgraduate Study.

It is unusual nowadays to read any medical journal without finding something said about clinics—postgraduate education, and the importance of keeping abreast of the times. Not only are the medical journals stressing the need of postgraduate study for physicians, but the laymen are alive to this also, and newspapers and popular magazines make frequent reference to the popular demand for more and better service from physicians.

The intelligent mother of today knows more about feeding the baby than her doctor who fails to keep himself informed. The scientific investigations and widespread propaganda of those engaged in health work and preventive medicine are gradually wiping out diseases that a few years ago were considered inescapable.

From an address of Dr. Henry A. Christian, in the *Journal of the A. M. A.* for March 28, 1931:

"Physicians can be divided into two great groups, those that are learning and those that are forgetting, those that each year know more, and those that each year know less. There seems no third group, those that are stationary.

"A few physicians increase in knowledge from within and grow from their own doing. These are the innate investigators. The rank and file require outside help to grow and to progress. Books, meetings, contacts, discussions, teachers are our armamentarium for progress. Like the 'spring tonic' of past days, all of us need some of this medicine, at least annually, better if it comes more frequently. A large majority of physicians know their need and seek treatment. Postgraduate instruction is a potent prescription to this end, if it can be carried to the proper dispenser for filling.

"Postgraduate instruction should commence with the physician's graduation from the medical school. It should continue throughout his life."

Let us examine ourselves. Are we learning or forgetting? Going forward or backward? As we near the close of another year let us gird ourselves for larger and better service.

I. C. Harrison, M. D.,
President-Elect and Chairman, Department of Clinical Education.

Information

All members of the Medical Society of Virginia are requested to write for any information desired on any subject relative to these Extension Courses in Graduate Medical Education either to the Executive Secretary, Mr. George W. Eutsler, P. O. Box 707, University, Va., or to the Chairman of the Department.

Scheduled Meetings

The Southwestern Virginia Medical Society

Is to hold its regular semi-annual meeting at Marion, Va., September 24th and 25th. The meeting will be opened as usual with a banquet on the 24th and followed by a program consisting of the President's address by Dr. E. G. Gill, Roanoke, and a paper by Dr. Horton Casparis, of Vanderbilt University, Nashville, Tenn., on "Allergy in Children."

The program for the 25th will consist of papers by the following men: Dr. I. A. Bigger, Richmond, "Infections of the Hand and Forearm"; Dr. Thomas E. Spessard, Roanoke, "General and Focal Signs of Intracranial Tumors"; Dr. J. C. King, Radford, "Prognosis in Psychiatric Cases"; Dr. Geo. B. Lawson, Roanoke, subject unannounced; Dr. F. H. Smith, Abingdon, "Coronary Disease as a Factor in Failing Myocardium"; and Dr. J. Glenn Cox, Hillsville, subject unannounced.

Dr. A. M. Showalter, Christiansburg, is secretary of this society.

The Clinch Valley Medical Society

Will hold its semi-annual meeting at Gate City, Va., September 26th, under the presidency of Dr. N. W. Stallard, of Dungannon. Dr. C. B. Bowyer, Stonega, is secretary. It has been decided to have a symposium on Vascular Hypertension for this meeting, one of the speakers for this being a member of the medical staff of Mayo Clinic. Several other members and visitors will present papers.

The Southside Virginia Medical Association,

Of which Dr. Ruth Mason, Petersburg, is president, and Dr. R. L. Raiford, Franklin, secretary, is holding its next quarterly meeting at Piedmont Sanatorium, Burkeville, on September the 8th. An interesting program has been arranged.

University of Virginia Clinics.

Announcement has been made that the Postgraduate Clinics to be held at the University of Virginia Hospital, will be on October 22nd and 23rd.

Proceedings of Societies

The Fauquier County Medical Society

Was entertained by Dr. M. B. Hiden, July 30. 1931, at the Allison House, Warrenton, Va., with the vice-president, Dr. J. E. Knight, presiding. Following routine business, the following officers were unanimously elected: President of the Society and Chief of Staff of the Fauquier Hospital, Dr. Richard Mason, The Plains; first vice-president and assistant Chief of Staff, Dr. John T. Sprague, Warrenton; second vice-president, Dr. Henry L. Townsend, Marshall; treasurer, Dr. J. Frank Folk, Warrenton; and secretary, Dr. M. B. Hiden, Warrenton. The following doctors were elected to membership in this society: Drs. David W. Kelly, Jr., and O. Kyle Burnett, of Culpeper, and Dr. Stewart McBryde, of Manassas.

Dr. Hiden urged that as many of the doctors as possible attend the meeting of the State Society in Roanoke this autumn. He requested the delegates to this meeting to do all that they could in order to prevent all doctors of questionable repute from practicing. He stated that lawyers disbar undesirable practitioners, and we should be allowed to take similar action in the medical profession.

Dr. Richard Mason reported a cast of Osteogenesis Imperfecta, a very rare bone disease and showed the patient afflicted with this malady—a girl, 16 years of age, who had from minor causes broken her legs fourteen times. The paper was discussed by Drs. W. O. Bailey, O. K. Burnett, M. B. Hiden, and Major Benjamin L. Jacobson.

Dr. J. T. Sprague made an excellent speech on State and Federal Medicine and brought out clearly the activities of the U. S. Public Health Service. This was discussed by Dr. W. O. Bailey. On motion of Dr. Sprague, it was voted to request Dr. G. Frank Simpson and Dr. W. O. Bailey of the Public Relations Committee of the State Society to investigate this subject and to make a report on it at the Roanoke meeting.

After the business meeting adjourned, dinner was served, and the physicians and their guests had a pleasant social meeting for about two hours.

The Mid-Tidewater Medical Society

Held its regular quarterly meeting aboard "Camp Chesapeake" on Mobjack Bay, July 28th, at which time the members and visitors were the guests of Dr. Blair Spencer and the other doctors in the County of Gloucester.

Delegates were elected to the Medical Society of Virginia meeting in Roanoke in October. Those elected from the various counties are as follows: Drs. E. C. Cobb from Caroline; Thos. B. Latane from King and Queen with R. D. Bates alternate; William Gwathmey from Middlesex; Rob. R. Hoskins from Mathews; E. L. W. Ferry from Essex; M. H. Eames from New Kent; Harry Tabb from Gloucester; L. O. Powell from York; and M. H. Harris from King William. Dr. R. D. Bates, Councilor from the District, was designated to act for the society at the Roanoke meeting.

Dr. E. C. Cobb was elected a member from Caroline County.

The next meeting will be held at Millers Tavern on the fourth Tuesday in October, at which time officers will be elected for the next calendar year.

Dr. Wm. Gwathmey, Ruark, is president of this society and Dr. M. H. Harris, West Point, secretary.

Augusta County Medical Association.

Decision to operate a county dispensary, reports of clinical cases and election of officers were highlights of the banquet meeting of this Association held in August. Dr. M. J. Payne acted as toastmaster and the principal speaker was Dr. F. N. Brand, medical missionary from Korea, who was visiting in Staunton.

The following officers were elected for the ensuing year: Dr. W. C. Roller, Fort Defiance, president; Drs. T. H. Rolston, New Hope; F. P. Floyd, Waynesboro; and George H. Thomas, Staunton, vice-presidents; Drs. W. T. Hartman, Swoope, and T. M. Parkins, Staunton, were re-elected secretary and treasurer, respectively.

XUM

News Notes

Fall in Line for Roanoke.

This issue of the MONTHLY is our *Program Number* and also has an excellent division devoted to Roanoke—our Convention City for this year. We hope every member of the Medical Society of Virginia will read this issue and then "fall in line" to attend the meeting.

The local doctors have prepared lovely entertainment for the doctors and ladies accompanying them. They strongly urge that hotel reservations be made as soon as possible.

The scientific program in addition to a number of interesting volunteer papers, will include two guest speakers of our president, Dr. J. Allison Hodges, of Richmond. They are are Dr. Russell L. Cecil, formerly of this State but now one of the prominent physicians of New York City, and Dr. Ralph P. Truitt, of Baltimore, Medical Director of the Mental Hygiene Society of Maryland and clinical professor of psychiatry at the University of Maryland.

There will be scientific and commercial exhibits and some interesting clinics. The latter will be held on Tuesday afternoon under the auspices of the Roanoke Academy of Medicine and will be on Medicine by Dr. Russell L. Cecil, Pediatrics by Dr. Charles G. Kerly, of New York City, and Obstetrics, the speaker to be announced.

You cannot afford to miss this excellent program, so come early and stay through the Thursday afternoon session which is to be held at Catawba Sanatorium. You should not miss the opportunity to visit this splendid State institution so beautifully located.

The Virginia Pediatric Society

Will hold its annual luncheon meeting in the Red Room of Hotel Patrick Henry, Roanoke, at 1:00 P. M., on Wednesday, October 7th, during the time of the meeting of the Medical Society of Virginia. The president, Dr. W. B. McIlwaine, of Petersburg, will preside. Dr. Horton Casparis, professor of pediatrics at Vanderbilt University, Nashville, Tenn., will be the guest speaker and will give an address on Tuberculosis in Children: Prevention and Control.

Reservations for the luncheon should be made through the secretary. Dr. J. B. Stone, 2042 Park Avenue, Richmond, Va., or at the desk when registering at the Roanoke meeting.

Married.

Dr. Alexander Gordon Gilliam, Petersburg, Va., and Miss Laura Edmondston Venning, University, Va., June 20th Dr. Gilliam graduated from the University of Virginia this year and received an appointment to the University of Virginia Hospital.

Dr. Frank Duncan Costenbader, of the class of '29, University of Virginia, and Miss Mary Young Barner, of Dinwiddie County, Va., August 8th. They are at present in Washington, D. C., where Dr. Costenbader is located at the Episcopal Hospital.

Dr. Edward A. Holmes, Marion, Va., and Mrs. Margaret Hoge, Burkes Garden, Va., August 20th.

The International Association of Industrial Accident Boards and Commissions

Will hold its Eighteenth Annual Convention, October 5th, 6th, 7th, 8th, and 9th, at Richmond, Va., under the presidency of Col. Parke P. Deans, Member, Industrial Commission of Virginia. Headquarters will be at John Marshall Hotel.

There will be two medical sessions on Wednesday, the 7th, the one in the morning under the chairmanship of Dr. G. H. Gehrmann, Medical Director, E. I. Dupont de Nemours and Company, Inc., Wilmington, Del., and the afternoon session under the chairmanship of Dr. H. U. Stephenson, Chief Medical Examiner, Industrial Commission of Virginia, Richmond, Va., both of whom are vice-presidents of the general organization. The following is a list of the speakers for the morning session with titles of their papers: Dr. Henry Field Smyth, Philadelphia, Pa., on Should a Course in Industrial Medicine be Included in the Curriculum of Medical Schools?, this to be discussed by Dr. W. T. Sanger, President of the Medical College of Virginia, and Dr. J. Allison Hodges, President of the Medical Society of Virginia, both of Richmond. Dr. Henry H. Kessler, Newark, N. J., will speak on Settlements as a Thera-

peutic Measure, which will be discussed by Drs. J. Morrison Hutcheson, Richmond, and F. H. Smith, Abingdon. Relationship of Arthritis and Traumatic Injuries by Dr. G. H. Watson. New York, will be discussed by Drs. H. Page Mauck and William Tate Graham, both of Richmond.

At the afternoon session, Dr. Richard H. Price, Wilmington, Del., will speak on Care and Treatment of Injured to Avoid Traumatic Neurosis, and this will be discussed by Drs. R. Finley Gayle, Richmond, and W. R. Williams, Richlands. The Value and Equipment of a First Aid Station by Dr. H. G. Longaker, Newport News, will be discussed by Drs. C. B. Bowyer, Stonega, and S. E. Gunn, Hopewell. Major General H. L. Gilchrist, Washington, D. C., will speak on The Differential Diagnosis of Traumatic and Occupational Chemical Injuries, and Drs. Warren T. Vaughan and Dean Cole, both of Richmond, will discuss it.

Approximately 250 representatives of various industrial accident boards and commissions in the United States, Canada and outlying possessions of this country are expected to attend the convention.

Dr. Thomas C. Lawford,

Of the class of '29, University of Virginia, Department of Medicine, is opening an office for general practice in Hilton Village, Va., September 1st. He interned one year at the Orange (N. J.) Memorial Hospital and served one year as resident at the Elizabeth Buxton Hospital, Newport News, Va.

Associated With Dr. Wheeldon.

After September 1st, Dr. M. Melvin Clark, who completed his orthopaedic training in Boston and who has recently been at the Gates Memorial Hospital in Elyria, Ohio, will be associated with Dr. Thomas Wheeldon, in Richmond, Va.

Graduate Fortnight.

The fourth Graduate Fortnight of the New York Academy of Medicine on "Disorders of the Circulation" will be held from October 19th through the 30th, with headquarters in the Academy building, 2 East 103rd Street, corner Fifth Avenue, New York City. *The profession generally is invited to attend.* No fees will be charged for registration or for attendance at any of the clinics or meetings of the Fortnight. The program comprises Specially Arranged Coordinated Afternoon Clinics, bearing upon the general subject, which will be presented in twelve of the large hospitals of the city; Evening Sessions at which well-known authorities will discuss the general subject from many viewpoints; and a Scientific Exhibit of anatomical, bacteriological, and pathological specimens, and research material bearing upon the various aspects of the subjects discussed at the evening meetings.

The week following the Fortnight, there will be a Course in Fracture Treatment, comprising ten clinic lecture demonstrations, given by the New York and Brooklyn Regional Fracture Committee of the American College of Surgeons. Fee for this last course is $25, and attendance will be limited.

Those interested in attending the Fortnight, should apply at once for Clinic Registration Form to the Academy, at address given above, as Registration forms should reach the Academy by September 15th, or earlier.

Dr. H. Cantor

Has opened an office in the Medical Arts Building at Petersburg, Va., where he is engaged in the practice of Surgery and Obstetrics. Dr. Cantor is a graduate of Harvard Medical School and received his training at Sinai Hospital of Baltimore and Knickerbocker Hospital of New York. At Knickerbocker Hospital, Dr. Cantor did much major surgery under Dr. Elsworth Eliot, former president of American Surgical Association.

Dr. H. J. Warthen,

Who for the past four years has been assistant resident surgeon and assistant in Johns Hopkins Medical School, has been appointed resident surgeon at John Hopkins Hospital, Baltimore, and entered upon his duties there on September 1st. Dr. Warthen is a graduate of the University of Virginia, Department of Medicine, class of '25, and served his internship at St. Elizabeth's Hospital, Richmond.

Dr. and Mrs. E. C. S. Taliaferro

Expect to return to their home in Norfolk, Va., about the 10th of September, after several weeks spent travelling in England and on the continent.

New Health Officer in Albemarle County.

Dr. E. L. McQuade, formerly with the Virginia State Department of Health, but who recently completed a scholarship course at Johns Hopkins University awarded him while he was with the Virginia Health Department, entered upon his new duties as chief health officer of Charlottesville and Albemarle County, Va., the

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first of August. He succeeds Dr. George B. Young, resigned because he is retiring from active work. However, Dr. Young will be a member of the County Board of Health and also of the Joint Board.

The Interstate Postgraduate Medical Association of North America

Will hold its annual meeting at Milwaukee, Wis., October 19th-23rd. The program will include speakers of international prominence and every practicing physician can find something to his liking. Dr. Henry A. Christian, Boston, Mass., is president, and Dr. Edwin Henes, Jr., Milwaukee, Wis., secretary, and Dr. Wm. B. Peck, Freeport, Ill., managing director of this association.

News Notes From the Duke University School of Medicine and Duke Hospital.

On July 2nd, Dr. Alfred R. Shands, Jr., held the orthopedic clinic, known as the Rotary Crippled Children's Clinic, at Park View Hospital, Rocky Mount, N. C., at which the initial examinations were made of the children and advice given regarding treatment. Every third Tuesday Dr. Shands holds an orthopedic clinic at Goldsboro, N. C.

On July 6th, Dr. Christopher Johnston read a paper on the Complications of Diabetes at a meeting of the Gaston County Medical Society, Gastonia, N. C.

In October, 1931, for the first time, all four classes of students will be enrolled in the medical school, with sixty in the first year class, forty-nine in the second, eighteen in the junior, and eighteen in the senior class, making a total of 145 students. The seventy-eight students admitted in 1931 are from fifty-three different colleges and universities. Forty-one are from North Carolina and the remainder from twenty-two other States. The first class will be graduated in June, 1932.

A chapter of Alpha Omega Alpha, the honorary medical fraternity, was established here on April 29, 1931.

Thirty-five students were admitted to the School of Nursing on January 2, 1931, and after a rigid probationary period, fifteen were retained as intermediate students. The School of Nursing has been visited and inspected by Miss Nina D. Gage, Executive Secretary of the National League of Nursing Education, Miss Dorothy Deming, Public Health Nurses Association, and Miss Mary M. Roberts, Editor of *The American Journal of Nursing.*

Four students have been admitted to the School of Dietetics. One has completed her year's course of training.

The prerequisites of 3½ years of nutrition in an accepted university have been approved by the Educational Section of the American Dietetic Association.

Dr. Nelson Mercer,

Richmond, Va., was reappointed a Lieutenant-Colonel, Medical Corps Reserve, U. S. Army, on August 1, 1931.

Dr. Mercer and his wife returned home the middle of August after a motor trip through New York State and Vermont where they visited relatives and friends.

Dr. Ray A. Moore

And family, of Farmville, Va., motored to Boston, about the middle of July. They will be there until about the middle of September, as Dr. Moore is doing postgraduate work in some of the hospitals connected with the Harvard Medical School.

Dr. J. Lewis Blanton,

Of the class of '24, Medical College of Virginia, announces his removal from Trenton, N. J., to Fairmont, W. Va.

President of American Medical Association of Vienna.

Dr. Clarence W. Trexler, of class of '26, University of Virginia, Department of Medicine, was unanimously elected President of the American Medical Association of Vienna, in July. He succeeded Dr. Harold Schilling, of New Hampton, Iowa. All officers of this Association are elected to serve for six months.

Before going to Vienna, Dr. Trexler was director of the Samuel Mahelona Memorial Hospital and Government physician for Kawaihau District, Kauai County, Hawaii. Upon leaving Vienna about December 1st, Dr. Trexler will locate in Honolulu, Hawaii, with offices in Young Building.

Young Workers Need Physical Care.

The need for the physical examination and care of young workers is evidenced, according to a supervising physician of New York City's department of health, by the fact that 6,532 defects of 234 varieties were found among 2,691 boys 14 to 17 years of age en-

rolled at the West Side Continuation School from 1926 to 1929.

Dr. John McIntyre Nokes,

Recently instructor in Obstetrics and Gynecology at Vanderbilt University Hospital at Nashville, Tenn., has returned to Virginia and become assistant professor of Obstetrics and Gynecology at the University of Virginia. Dr. Nokes is an alumnus of the University of Virginia, Department of Medicine, in the class of '27.

Dr. Tiffany J. Williams, of Great Falls Clinic, Montana, as was recently announced, is now professor of these branches at the University of Virginia.

Dr. Barton B. McCluer,

For some time at Bon Air, Va., is now located at Rockbridge Baths, Va.

Dr. Joseph B. Graham,

Of the class of '28, University of Virginia, Department of Medicine, who has spent the past year at Bell Memorial Hospital, Kansas City, Kan., has located in Richmond, Va., and is connected with the Department of Surgery at Memorial Hospital.

Dr. U. E. Massie,

After a year at Lewis-Gale Hospital, Roanoke, Va., has located for practice at Fincastle, Va. He was graduated from Medical College of Virginia in the class of '30.

The American Public Health Association

Is to hold its annual meeting in Montreal, Quebec, September 14th-17th, with headquarters at the Windsor Hotel. The program, as usual, promises much of interest. Surgeon General Hugh S. Cumming, of the U. S. Public Health Service, Washington, D. C., is president, and W. F. Walker, 450 Seventh Avenue, New York, secretary.

Dr. Aubrey Webster Armentrout,

Resident Surgeon at the University of Virginia Hospital for the past year, has opened offices for practice in Surgery and Gynecology at 110 North Braddock Street, Winchester, Va.

Dr. Armentrout is a graduate of the Johns Hopkins Medical School. He spent three years as intern in the Jefferson Hospital in Roanoke. During the session of 1929-1930 he held a Phillip Francis DuPont Research Fellowship in Surgery. During the tenure of this Fellowship he completed an experimental investigation on Cerebral Embolism and Thrombosis, in partial fulfillment of the requirements for a Master of Science Degree in Surgery awarded by the University of Virginia in June, 1930.

Dr. M. L. Anderson,

Richmond, Va., has been reappointed as a major in the medical reserve corps, according to information given out at the Eightieth Division headquarters.

Dr. John B. McKee,

Of the class of '28, University of Virginia, recently completed three years of postgraduate work in internal medicine at the New York Postgraduate Medical School and Hospital and has opened offices at 212 West Boscawen Street, Winchester, Va. His practice will be limited to internal medicine, electrocardiography being one feature of his work.

Medical College of Virginia Opens This Month.

It is announced that the Medical College of Virginia will open for its ninetp-fourth session on September 15th, and that a very satisfactory enrollment is expected.

Dr. Donald O. Hamblin

Will open offices at 1112 Church Street, Lynchburg, Va., on September 15, 1931, for the practice of general medicine.

Dr. Hamblin is a graduate of the University of Virginia, and has recently completed his residency in Obstetrics and Gynecology at the University of Virginia Hospital.

Dr. Charles W. Putney,

Staunton, Va., has returned home after spending some time in postgraduate study in Vienna, and visiting clinics in other European cities.

Dr. Ben H. Knight,

Of the class of '30, Medical College of Virginia, upon completion of his internship at Johnston-Willis Hospital, Richmond, has located in Surry, Va., for general practice.

Children's Accidents.

More than 18,000 children in the United States were killed by accidents in 1930, and a very large number were seriously injured. Yet these startling figures represented a considerable decrease in accidental deaths of children, especially those of school age, according to the supervisor of New York City's child-safety demonstration. He found that low intelligence, worry, weariness, day-dreaming, love of adventure, and rebellion against authority are among the mental causes of accidents, and

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he suggests that parents and teachers should take them into consideration in the training of children.

Dr. and Mrs. L. A. Law,

Alberta, Va., returned home the latter part of August, after a vacation spent at Virginia Beach, Va.

Dr. Douglas F. Love,

Recently of New Market, Va., has just moved to Bartley, W. Va., where he will continue his practice.

Dr. Lewis W. Angle,

Of the class of '26, Medical College of Virginia, announces the opening of his offices in Huron Building, 905 North Seventh Street, Kansas City, Kan. His practice will be limited to General, Plastic, and Chest Surgery.

Dr. Herman F. Oppleman,

Who recently completed his residency at St. Vincent's Hospital, Norfolk, Va., has located at 2222 West Grace Street, Richmond, for general practice. He is a member of the class of '30, Medical College of Virginia.

Dr. Emily Gardner,

Of Franklin, Va., formerly connected with the Bureau of Child Welfare of the Virginia State Department of Health, who has been doing some postgraduate work in pediatrics in London, has been granted the Mary Putnam Jacobi Fellowship fund to continue her work abroad for a while longer. Since going abroad, she has also spent one month motoring on the continent.

Dr. E. V. Richardson,

An alumnus of the Medical College of Virginia, class of '30, has just located at Glade Springs, Va., for the practice of medicine. Dr. Richardson served one year as an intern at the University of Wisconsin Hospital, Madison, Wis., and has just completed a junior internship at the Johnston Memorial Hospital, Abingdon, Va.

American College of Surgeons.

The Clinical Congress and annual meeting of the College will be held in New York City, October 12th to 16th, with headquarters at the Waldorf Hotel. Information about the Congress may be obtained from the Director General, Dr. Franklin H. Martin, 40 East Erie Street, Chicago. Dr. C. Jeff Miller, of New Orleans, is this year's president.

Reappointed Health Commissioner of West Virginia.

Dr. W. T. Henshaw was recently appointed State Health Commissioner of West Virginia, a position which he has held since 1921. Dr. Henshaw has accomplished some notable work during his administration.

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons

Will hold its annual meeting at White Sulphur Springs, W. Va., September 14th, 15th, and 16th, under the presidency of Dr. Arthur H. Bill, of Cleveland. Dr. Magnus A. Tate, of Cincinnati, is secretary.

Dr. Millard P. Doyle

Has returned to his home in Norfolk, Va., after a two months' stay in Europe, where he attended the International Rotary Convention in Switzerland, as a delegate from the Norfolk Rotary Club.

For Sale—

Office furniture and instruments for nose and throat work, account death. Address Mrs. M. R. Irby, 200 West Grace Street, Richmond, Va. (*Adv.*)

Wanted—

A good physician to take over the practice of Dr. D. L. Shaver, deceased. This comprises a territory of about twelve by twenty miles, including five villages, located in the Shenandoah Valley on Lee-Jackson Highway. Thickly populated with a fine class of people. No negroes. For further information, address W. E. Shaver, Maurertown, Shenandoah County, Va. (*Adv.*)

For Sale—

McCaskey System cabinet; large model, slightly used; in excellent condition; cost $285, but will sell at bargain. Address No. 299, care this journal. (*Adv.*)

Obituary Record

Dr. David C. Cline,

Dumfries, Va., died August 17th, after a short illness. He was 63 years of age and a graduate of the Lincoln Memorial University Medical Department, Knoxville, Tenn., in 1911. Dr. Cline was a native of West Virginia but had been a resident of Dumfries for twenty-six years, where he was a leader in civic and community movements. His second wife and six children survive him.